Test Report

Product Name	： Wireless Outdoor Bridge
Model No.	： ZA-5000-I
FCC ID No.	： UDKZA5000I

Applicant	： Nanjing Z-COM Wireless Co., Ltd.
Address	： 168 Long Pan Zhong Road, Jiangsu Software Park, Suite 118 Nanjing, China 210002

Date of Receipt	： 2006/06/06
Issued Date	： 2006/07/19
Report No.	： 066L128-RF-US-P05V01-2

Test Report Certification

Issued Date : 2006/07/19
Report No. : 066L128-RF-US-P05V01-2

QuieTek

Product Name	:	Wireless Outdoor Bridge
Applicant	:	Nanjing Z-COM Wireless Co., Ltd.
Address	:	168 Long Pan Zhong Road, Jiangsu Software Park, Suite 118 Nanjing, China 210002
Manufacturer	:	Nanjing Z-COM Wireless Co., Ltd.
Model No.	:	ZA-5000-I
FCC ID No.	:	UDKZA5000I
Rated Voltage	:	AC 100-240V, 50/60Hz
EUT Voltage	:	AC 120V/60Hz
Trade Name	:	ZDC
Applicable Standard	:	FCC Part 15 Subpart E: 2005 ANSI C63.4: 2003
Test Result	:	Complied
Performed Location	:	SuZhou EMC Laboratory No.99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech Development Zone., SuZhou, China TEL:+86-512-6251-5088 / FAX:+86-512-6251-5098

Documented By : Mandy Liu
(Mandy Liu)

Reviewed By : Dream Cao
(Dream Cao)

Approved By : Gene Chang
(Gene Chang)

Laboratory Information

We , **QuieTek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited by the following accreditation Bodies in compliance with ISO 17025, EN 45001 and Guide 25:

Taiwan R.O.C.	**:**	**BSMI, DGT, CNLA**
Germany	**:**	**TUV Rheinland**
Norway	**:**	**Nemko, DNV**
USA	**:**	**FCC, NVLAP**
Japan	**:**	**VCCI**

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site : http://tw.quietek.com/modules/myalbum/
The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : http://www.quietek.com/
If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

HsinChu Testing Laboratory :

No.75-2, 3rd Lin, Wangye Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan, R.O.C.
TEL:+886-3-592-8858 / FAX:+886-3-592-8859 E-Mail : service@quietek.com

NVLAP Lab Code : 200347-0
1313

LinKou Testing Laboratory :

No. 5, Ruei-Shu Valley, Ruei-Ping Tsuen, Lin-Kou Shiang, Taipei, Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : service@quietek.com

NVLAP Lab Code: 200533-0
0914

Suzhou Testing Laboratory :

No.99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech Development Zone., SuZhou, China
TEL : +86-512-6251-5088 / FAX : 86-512-6251-5098 E-Mail : service@quietek.com

NVLAP Lab Code : 200743-0
1596

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1. General Information

1.1. EUT Description

Product Name	Wireless Outdoor Bridge
Trade Name	ZDC
Model No.	ZA-5000-I
FCC ID No.	UDKZA5000I
Frequency Range	802.11a: 5150-5250, 5725-5825MHz
Channel Number	802.11a: 8CH
Type of Modulation	OFDM
Data Speed	OFDM: 6, 9, 12, 18, 24, 36, 48, 54Mbps
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto
Antenna Type	Connector
Antenna Joint Type	MHF Connector

Component	
Power Adapter	M/N: DSA-0421S-501 Input: AC 100-240V, 50/60Hz Output: DC 48V, 0.83A Cable Out: Non-Shielded, 1.8m
Power Cord	Non-Shielded, 1.8m
Network Adapter	Input: DC 48V
Outside Antenna	Manufacture: Z-COM M/N: ZA-A5002

Note: 1. The model of ZA-5000-I include one Transmitter Module (802.11 a/b/g Mini PCI Card) and one antenna (Inside Antenna), the Transmitter Module connected the Inside Antenna can work as 802.11a only as the software controller.

2. This device is a composite device in accordance with Part 15 Subpart B regulations. The function for the receiver was measured and made a test report that the report number is 066L128-IT-US-P01V02-2, certified under Declaration of Conformity.

Antenna List

No.	Manufacturer	Model No.	Part No.	Peak Gain
1	Z-COM (Inside)	ZA-5106	--	6dBi

802.11a Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
149	5745 MHz	153	5765 MHz	157	5785 MHz	161	5805 MHz

1.2. Mode of Operation

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

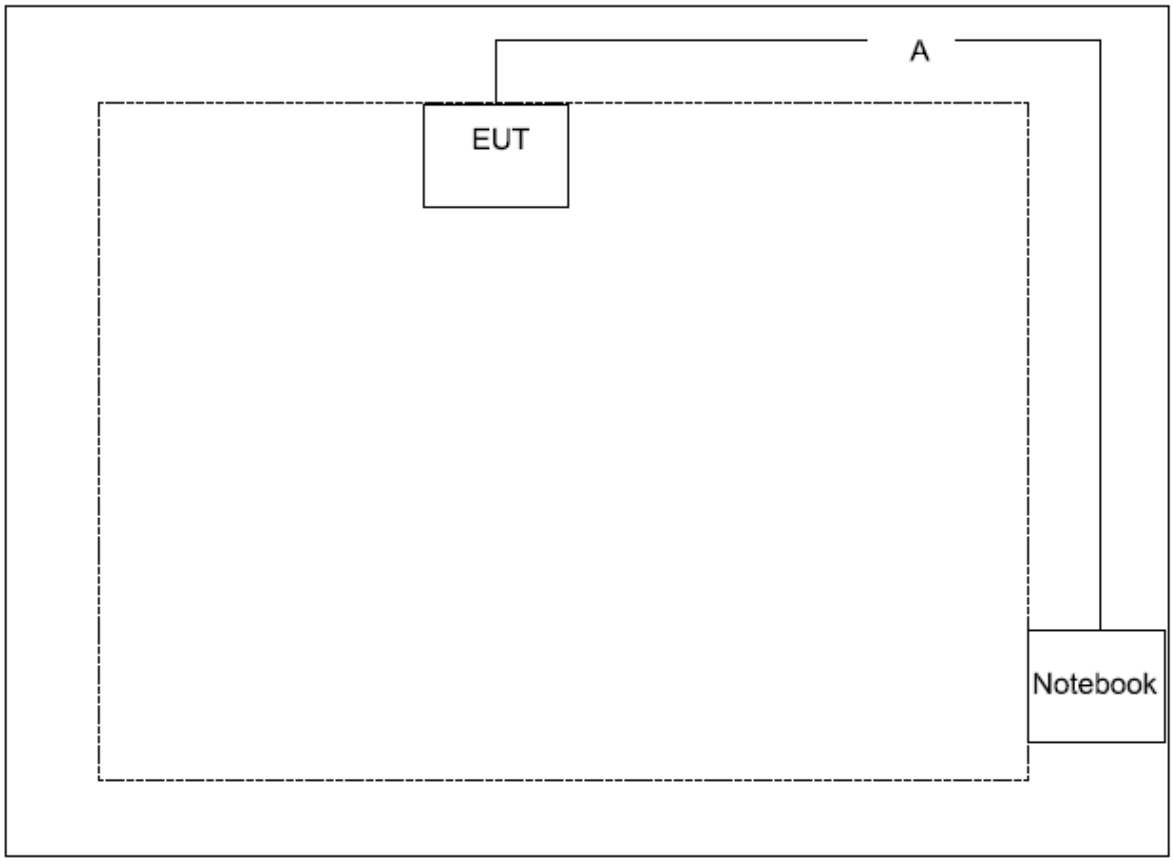
Pre-Test Mode
Mode 1: Transmitter 802.11a with Inside Antenna
Final Test Mode
Mode 1: Transmitter 802.11a with Inside Antenna

1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	ASUS	ALP-AJAX GDC	N/A	Non-Shielded, 1.8m, with one ferrite core bonded

1.4. Configuration of Tested System

Connection Diagram


Signal Cable Type		Signal cable Description
A	LAN Cable	Non-Shielded, >3m

1.5. EUT Exercise Software

(1)	Setup the EUT and simulators as shown on 1.4
(2)	Turn on the power of all equipment.
(3)	Execute the continuous transmission software of Putty.exe.
(4)	Setup the test mode, the test channel and the data rate.
(5)	Use the software to start the continuous transmission.
(6)	Verify that the EUT works correctly.

2. Technical Test

2.1. Summary of Test Result

☒ No deviations from the test standards

☐ Deviations from the test standards as below description:

Emission			
Performed Item	Normative References	Test Performed	Deviation
Conducted Emission	FCC Part 15 Subpart C Paragraph 15.207	Yes	No
26dBc Occupied Bandwidth	FCC Part 15 Subpart E Paragraph 15.407	Yes	No
Peak Transmit Power	FCC Part 15 Subpart E Paragraph 15.407	Yes	No
Radiated Emission	FCC Part 15 Subpart E Paragraph 15.407	Yes	No
Peak Power Spectral Density	FCC Part 15 Subpart E Paragraph 15.407	Yes	No
Peak Excursion	FCC Part 15 Subpart E Paragraph 15.407	Yes	No
Band Edge	FCC Part 15 Subpart E Paragraph 15.407	Yes	No
Frequency Stability	FCC Part 15 Subpart E Paragraph 15.407	Yes	No

2.2. List of Test Equipment

Conducted Emission / SR-1

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
EMI Test Receiver	R&S	ESCI	100175	2005/07/25
Two-Line V-Network	R&S	ENV216	100013	2006/03/31
Two-Line V-Network	R&S	ENV216	100014	2006/04/25
V-Network	R&S	ESH3-Z6	100248	2005/07/13
V-Network	R&S	ESH3-Z6	100249	2005/07/13
ISN	Schaffner	ISN T400	21648	2005/08/03
Current Probe	R&S	EZ-17	100252	2006/04/18
50ohm Coaxial Switch	ANRITSU	MP59B	6200447305	2005/11/25
50ohm Impedance	SHX	50ohmI	QT-IM001	2006/03/20
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH004	2006/03/30

Radiated Emission / AC-2

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2006/03/11
EMI Test Receiver	R&S	ESCI	100175	2005/07/25
Preamplifier	Quietek	AP-025C	QT-AP003	2005/11/25
Preamplifier	Quietek	AP-180C	CHM-0602013	2006/03/20
Bilog Type Antenna	Schaffner	CBL6112B	2932	2005/10/26
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2005/09/30
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2005/09/30
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH002	2006/03/30

Peak Transmit Power / AC-3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2006/03/11
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2006/03/30

Peak Power Spectral Density / AC-3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2006/03/11
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2006/03/30

26dBc Occupied Bandwidth / AC-3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2006/03/11
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2006/03/30

Band Edge / AC-3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2006/03/11
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2006/03/30

Peak Excursion / AC-3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2006/03/11
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2006/03/30

Frequency Stability/ AC-3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2006/03/11
Programmable Temperature&Humidity Chamber	Gaoyu	TH-1P-B	WIT-05121302	2006/01/16
DC Power Supply	IDRC	CD-035-020PR	977272	2005/12/28
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2006/03/30

2.3. Measurement Uncertainty

Conducted Emission

The measurement uncertainty is evaluated as ± 2.26 dB.

Radiated Emission

The measurement uncertainty is evaluated as ± 3.19 dB.

2.4. Test Environment

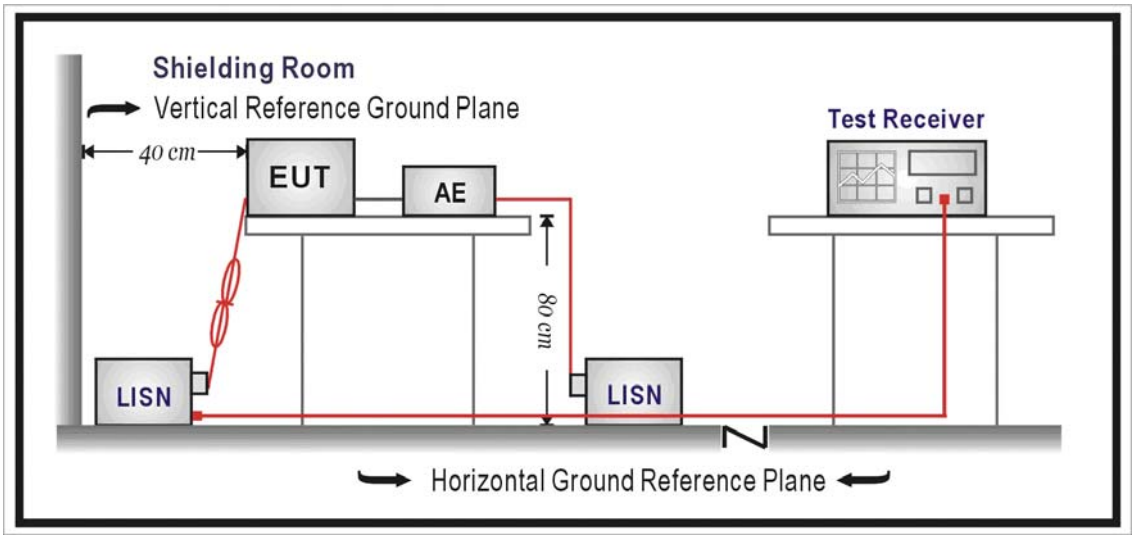
Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	15-35	24
	Humidity (%RH)	25-75	47
	Barometric pressure (mbar)	860-1060	950-1000
Radiated Emission	Temperature (°C)	15-35	24
	Humidity (%RH)	25-75	50
	Barometric pressure (mbar)	860-1060	950-1000

3. Conducted Emission (Main Terminals)

3.1. Test Specification

According to EMC Standard: FCC Part 15 Subpart C Paragraph 15.207

3.2. Test Setup



3.3. Limit

Limits (dBuV)		
Frequency	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges

3.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of AC line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed on conducted measurement.

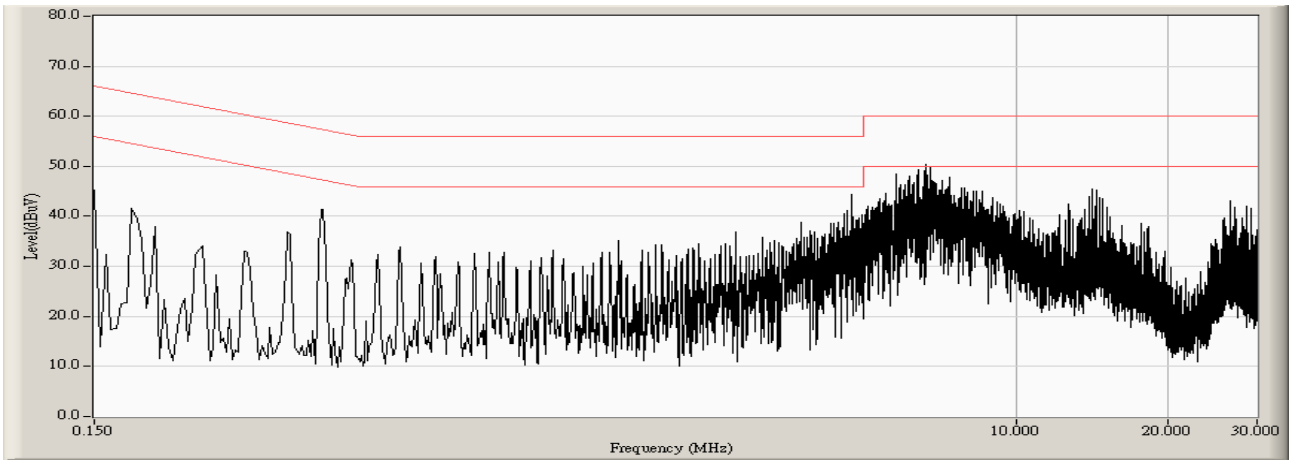
The bandwidth of the field strength meter is 9kHz.

3.5. Deviation from Test Standard

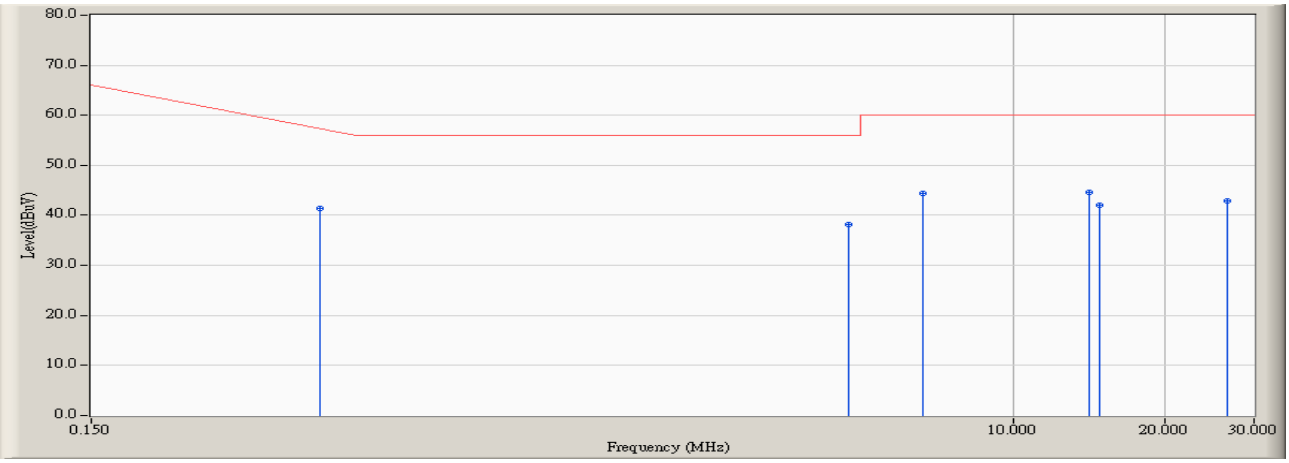
No deviation.

3.6. Test Result

Engineer : John	
Site : SR-1	**Time : 2006/06/24 - 16:24**
Limit : FCC_Part15_B_00M_QP	**Margin : 10**
EUT : ZA-5000-I	**Probe : ENV216 - Line1**
Power : AC 120V/60HZ	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5785MHz)**



Engineer : John	
Site : SR-1	**Time : 2006/06/24 - 16:31**
Limit : FCC_Part15_B_00M_QP	**Margin : 0**
EUT : ZA-5000-I	**Probe : ENV216 - Line1**
Power : AC 120V/60HZ	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5785MHz)**

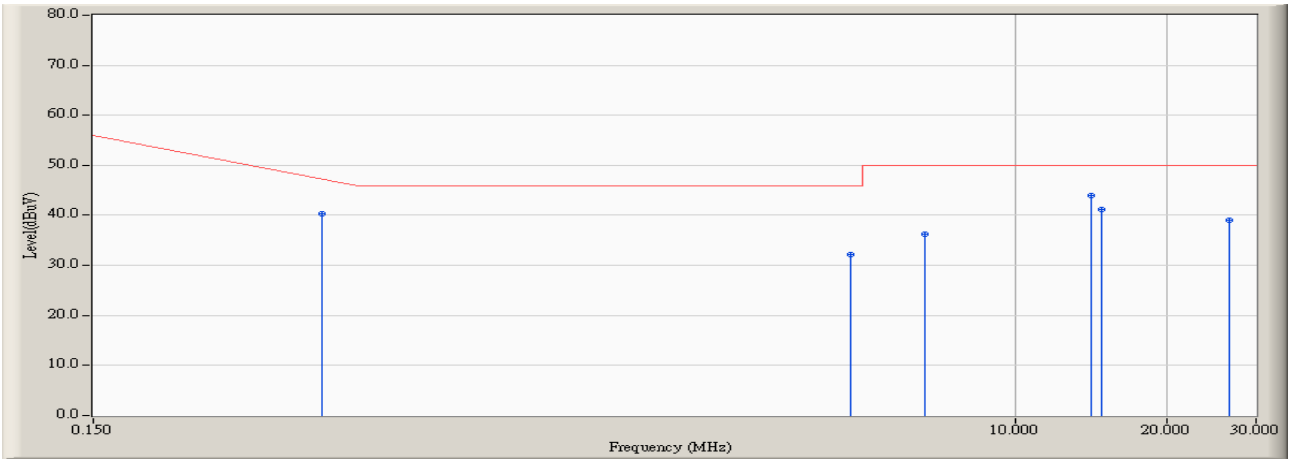


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.426	9.537	31.800	41.337	-16.777	58.114	QUASIPEAK
2		4.722	9.780	28.500	38.280	-17.720	56.000	QUASIPEAK
3		6.646	9.823	34.600	44.423	-15.577	60.000	QUASIPEAK
4	*	14.162	10.000	34.600	44.600	-15.400	60.000	QUASIPEAK
5		14.870	10.040	31.900	41.940	-18.060	60.000	QUASIPEAK
6		26.610	10.240	32.600	42.840	-17.160	60.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : John	
Site : SR-1	**Time : 2006/06/24 - 16:31**
Limit : FCC_Part15_B_00M_AV	**Margin : 0**
EUT : ZA-5000-I	**Probe : ENV216 - Line1**
Power : AC 120V/60HZ	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5785MHz)**

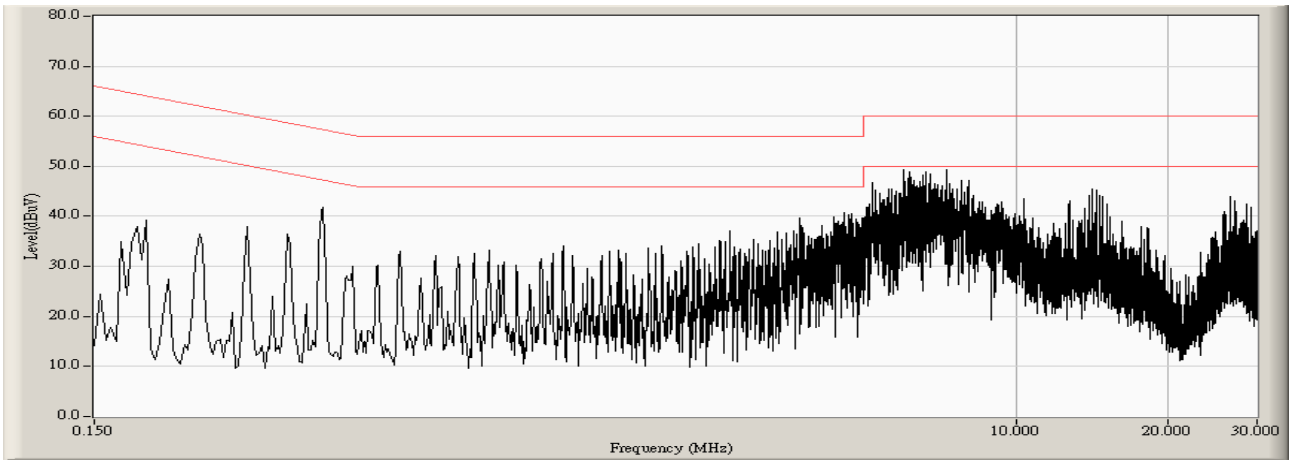


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.426	9.537	30.800	40.337	-7.777	48.114	AVERAGE
2		4.722	9.780	22.300	32.080	-13.920	46.000	AVERAGE
3		6.646	9.823	26.500	36.323	-13.677	50.000	AVERAGE
4	*	14.162	10.000	34.000	44.000	-6.000	50.000	AVERAGE
5		14.870	10.040	31.100	41.140	-8.860	50.000	AVERAGE
6		26.610	10.240	28.900	39.140	-10.860	50.000	AVERAGE

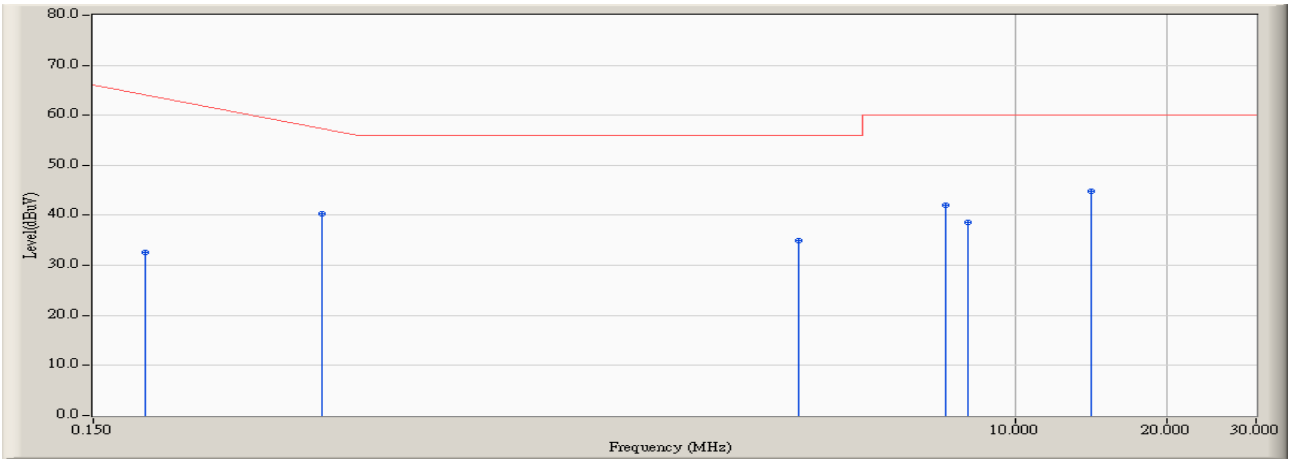
Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : John	
Site : SR-1	**Time : 2006/06/24 - 16:32**
Limit : FCC_Part15_B_00M_QP	**Margin : 10**
EUT : ZA-5000-I	**Probe : ENV216 - Line2**
Power : AC 120V/60HZ	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5785MHz)**



Engineer : John	
Site : SR-1	**Time : 2006/06/24 - 16:36**
Limit : FCC_Part15_B_00M_QP	**Margin : 0**
EUT : ZA-5000-I	**Probe : ENV216 - Line2**
Power : AC 120V/60HZ	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5785MHz)**

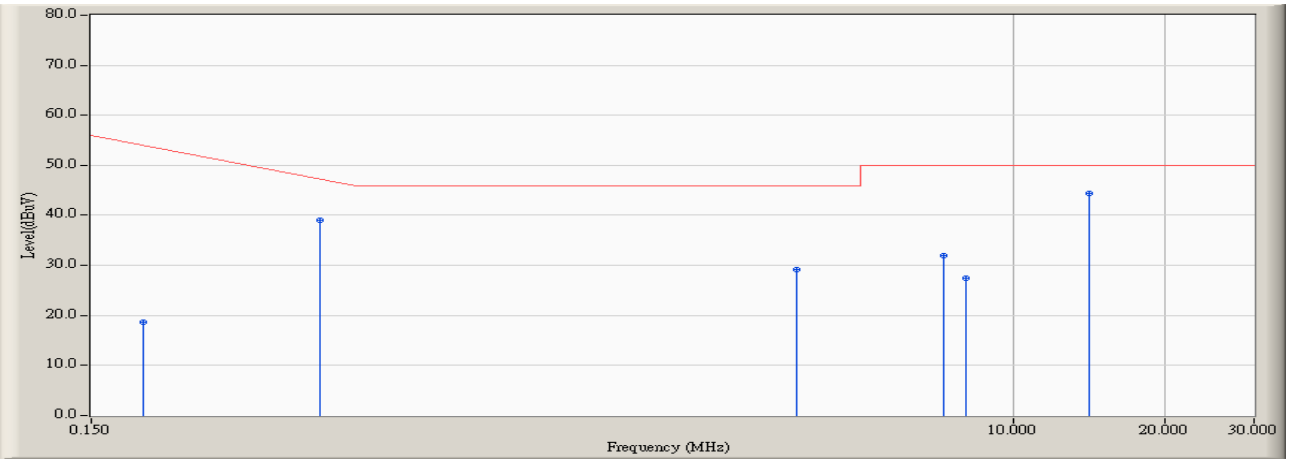


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.190	9.471	23.100	32.572	-32.285	64.857	QUASIPEAK
2		0.426	9.637	30.600	40.237	-17.877	58.114	QUASIPEAK
3		3.742	9.740	25.300	35.040	-20.960	56.000	QUASIPEAK
4		7.278	9.790	32.300	42.090	-17.910	60.000	QUASIPEAK
5		8.070	9.830	28.700	38.530	-21.470	60.000	QUASIPEAK
6	*	14.166	10.130	34.800	44.930	-15.070	60.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : John	
Site : SR-1	**Time : 2006/06/24 - 16:36**
Limit : FCC_Part15_B_00M_AV	**Margin : 0**
EUT : ZA-5000-I	**Probe : ENV216 - Line2**
Power : AC 120V/60HZ	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5785MHz)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.190	9.471	9.100	18.572	-36.285	54.857	AVERAGE
2		0.426	9.637	29.400	39.037	-9.077	48.114	AVERAGE
3		3.742	9.740	19.400	29.140	-16.860	46.000	AVERAGE
4		7.278	9.790	22.100	31.890	-18.110	50.000	AVERAGE
5		8.070	9.830	17.600	27.430	-22.570	50.000	AVERAGE
6	*	14.166	10.130	34.200	44.330	-5.670	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3.7. Test Photograph

Test Mode : Mode1: Transmitter 802.11a with Inside Antenna

Description : Front View of Conducted Test for Main

Test Mode : Mode1: Transmitter 802.11a with Inside Antenna

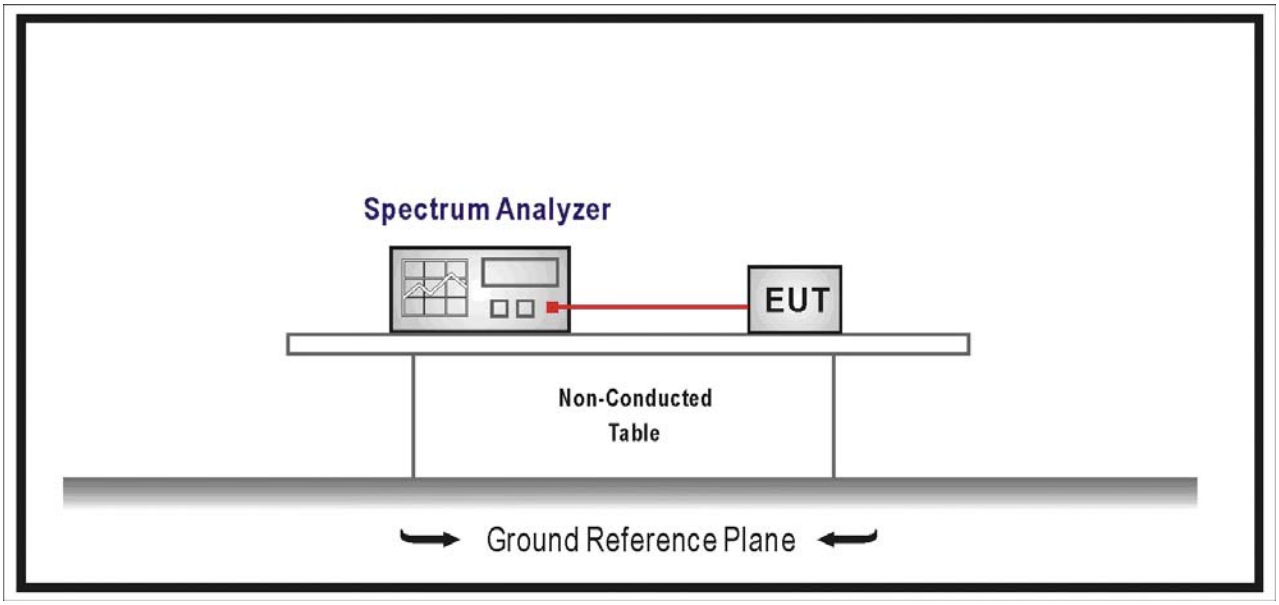
Description : Back View of Conducted Test for Main

4. 26dBc Occupied Bandwidth

4.1. Test Specification

According to EMC Standard: FCC Part 15 Subpart C Paragraph 15.407

4.2. Test Setup



4.3. Limit

(1) For the band 5.15-5.25 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 50 mW or 4 dBm + 10log B, where B is the 26dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

(2) For the band 5.25-5.35 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10log B, where B is the 26dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.825 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 1W or 17 dBm + 10log B, where B is the 26dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

4.4. Test Procedure

The peak power spectral density is measured as a conducted emission by direct connection of a spectrum analyzer t to the equipment under test. Measurements are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less.

4.5. Deviation from Test Standard

No deviation.

4.6. Test Result

Product	Wireless Outdoor Bridge (ZA-5000-I)		
Test Item	26dBc Occupied Bandwidth		
Test Mode	Mode1: Transmitter 802.11a with Inside Antenna		
Date of Test	2006/06/21	Test Site	AC-3

Channel No.	Frequency (MHz)	Measurement Level (MHz)	Required Limit (MHz)	Result
149	5745	25.323	--	Pass
157	5785	25.479	--	Pass
161	5805	24.556	--	Pass

Figure Channel 149 (5745MHz)

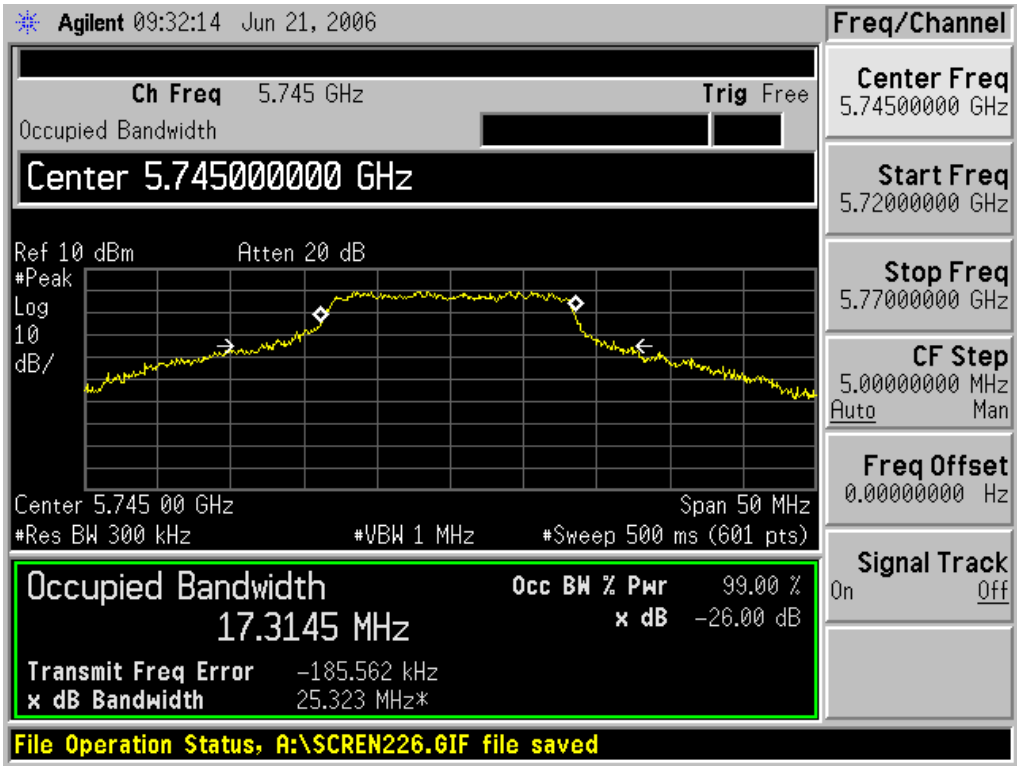


Figure Channel 157 (5785MHz)

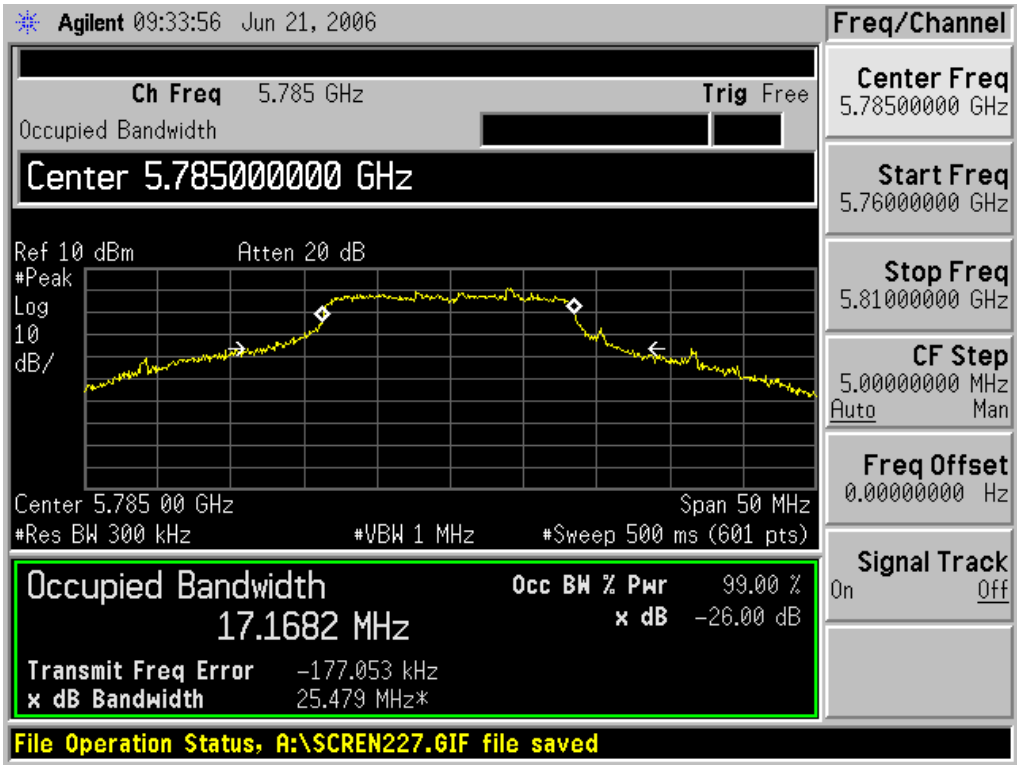
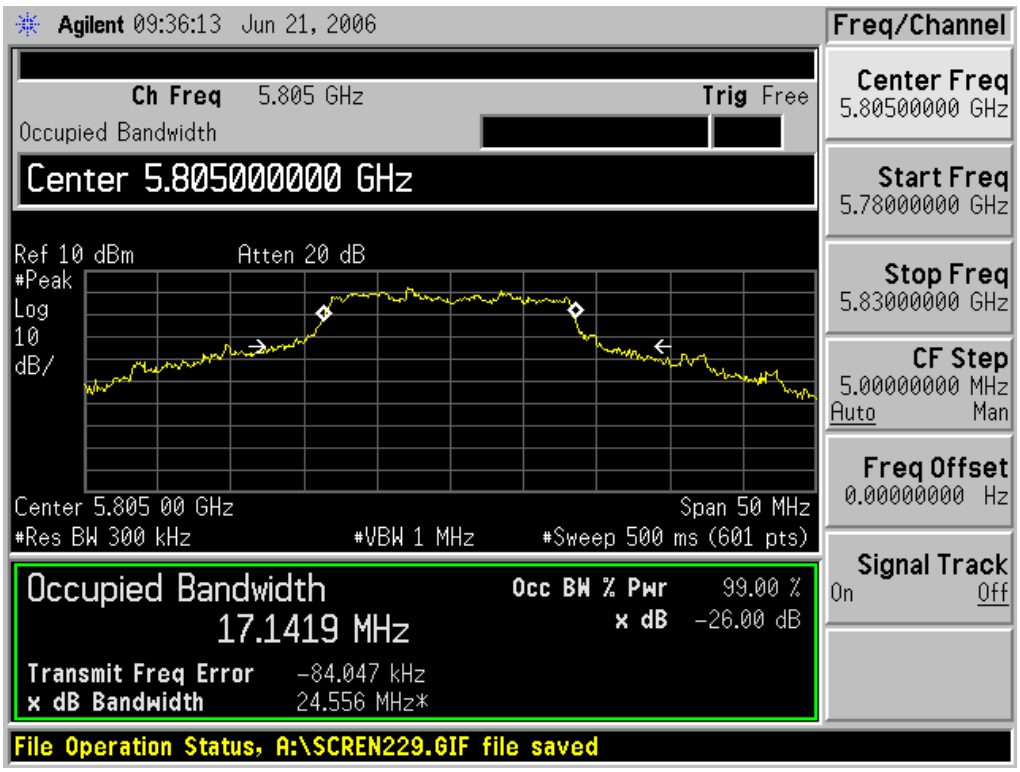


Figure Channel 161 (5805MHz)

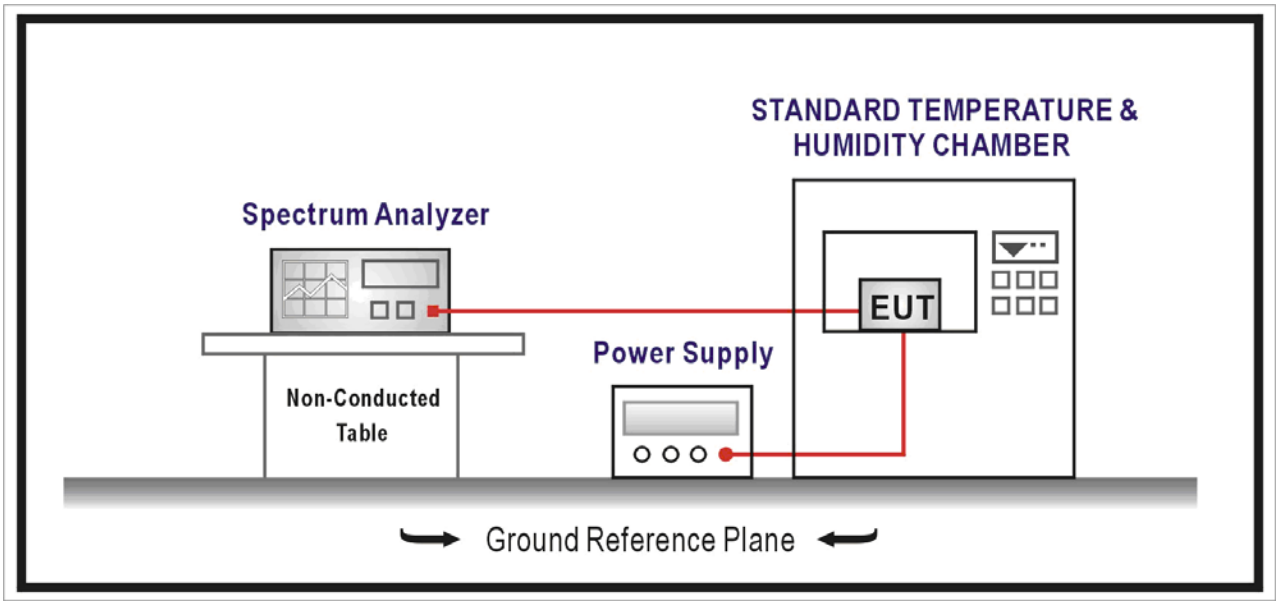


5. Peak Transmit Power

5.1. Test Specification

According to EMC Standard: FCC Part 15 Subpart C Paragraph 15.407

5.2. Test Setup



5.3. Limit

(1) For the band 5.15-5.25 GHz, the peak transmit power over the frequency band of Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

(2) For the band 5.25-5.35 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10log B, where B is the 26-dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.825 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 1W or 17 dBm + 10log B, where B is the 26-dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

5.4. Test Procedure

The peak power spectral density is measured as a conducted emission by direct connection of a spectrum analyzer to the equipment under test. Measurements are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less.

5.5. Deviation from Test Standard

No deviation.

5.6. Test Result

Product	Wireless Outdoor Bridge (ZA-5000-I)		
Test Item	Peak Transmit Power		
Test Mode	Mode1: Transmitter 802.11a with Inside Antenna		
Date of Test	2006/06/20	Test Site	AC-3

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit (dBm)	Result
149	5745	15.35	30dBm or 17dBm+10*log(26dB BW), whichever is lesser	Pass
157	5785	14.92	30dBm or 17dBm+10*log(26dB BW), whichever is lesser	Pass
161	5805	15.49	30dBm or 17dBm+10*log(26dB BW), whichever is lesser	Pass

Figure Channel 149 (5745MHz)

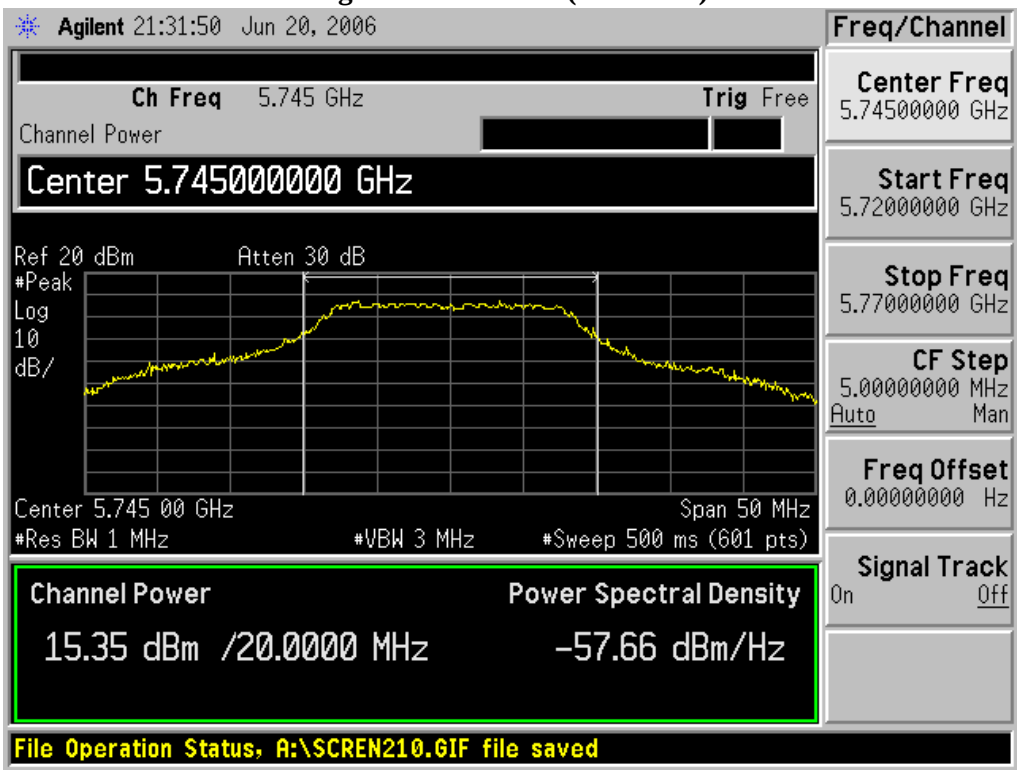


Figure Channel 157 (5785MHz)

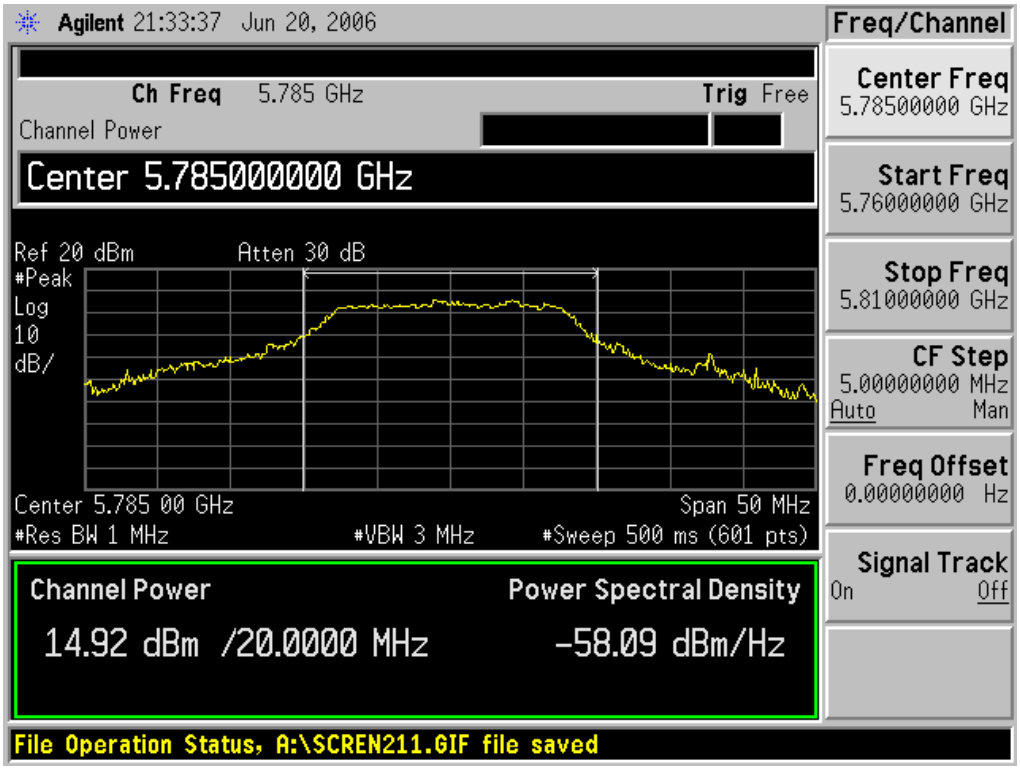
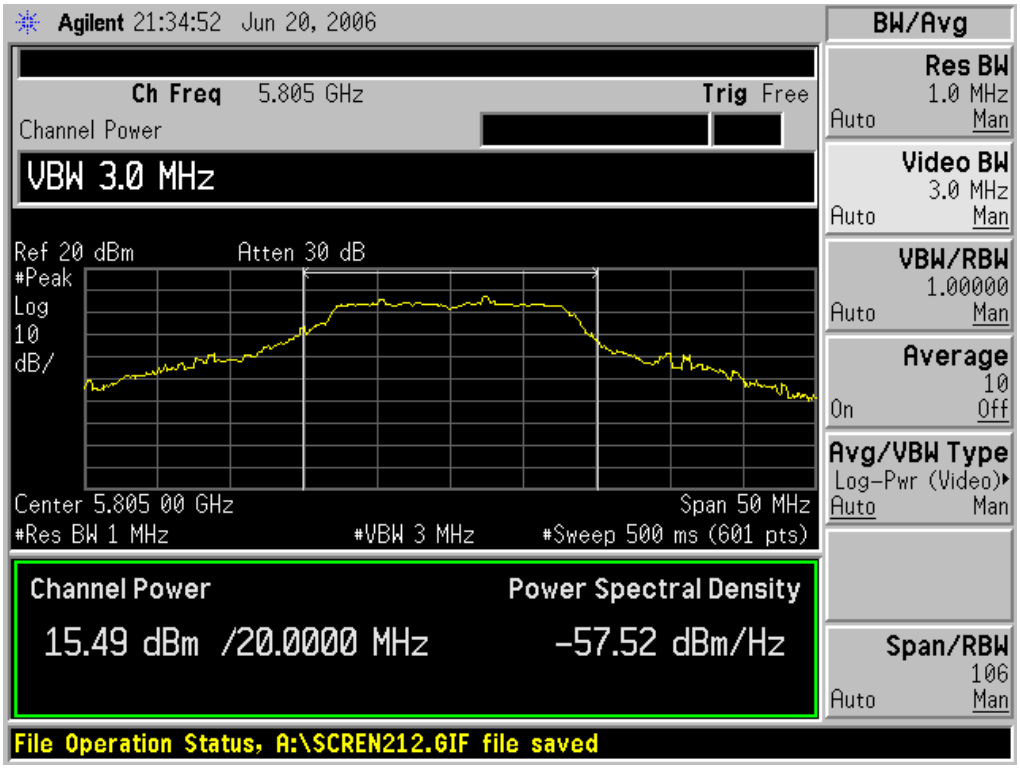


Figure Channel 161 (5805MHz)



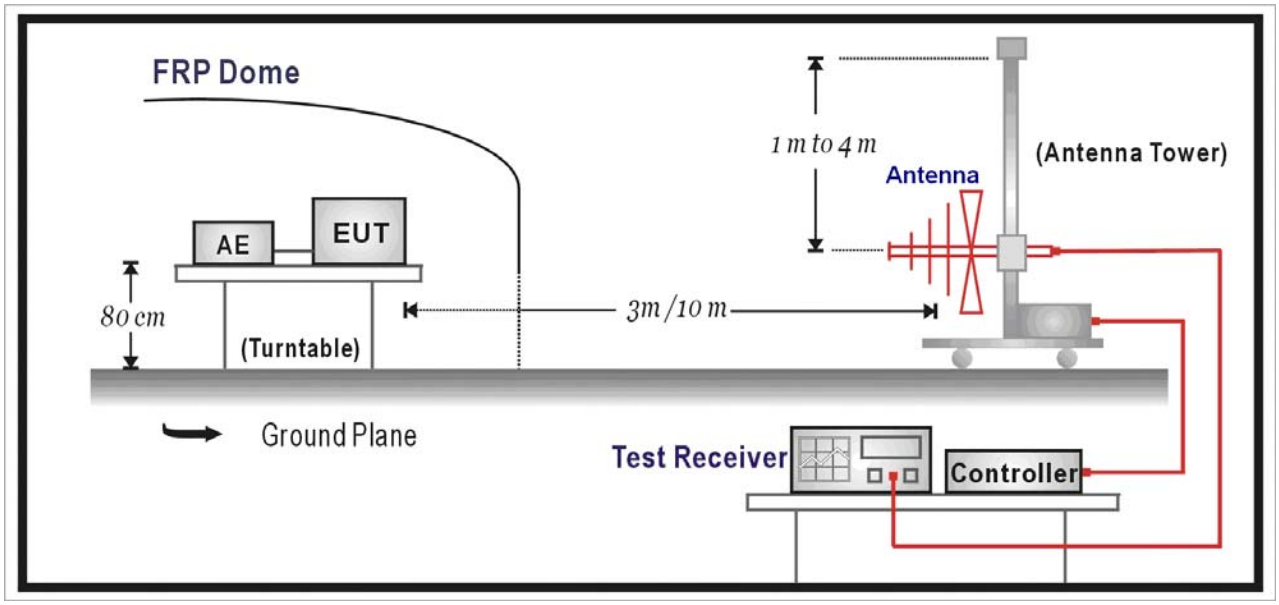
6. Radiated Emission

6.1. Test Specification

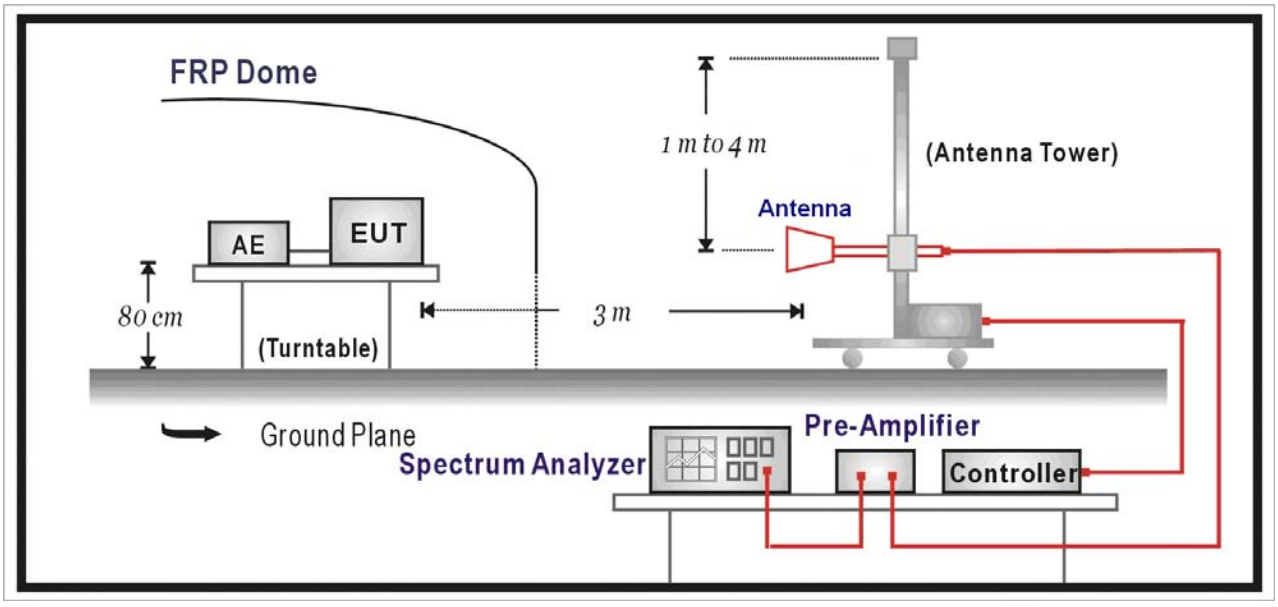
According to EMC Standard: FCC Part 15 Subpart C Paragraph 15.209

6.2. Test Setup

Under 1GHz Test Setup



Above 1GHz Test Setup



6.3. Limit

(1) For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of –27 dBm/MHz in the 5.15-5.25 GHz band.

(3) For transmitters operating in the 5.725-5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of –17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of –27 dBm/MHz.

(4) The field strength of emissions appearing within restricted bands of operation shall not exceed the limits in the Section 15.209.

(5) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in Section 15.209:

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks : 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

6.4. Test Procedure

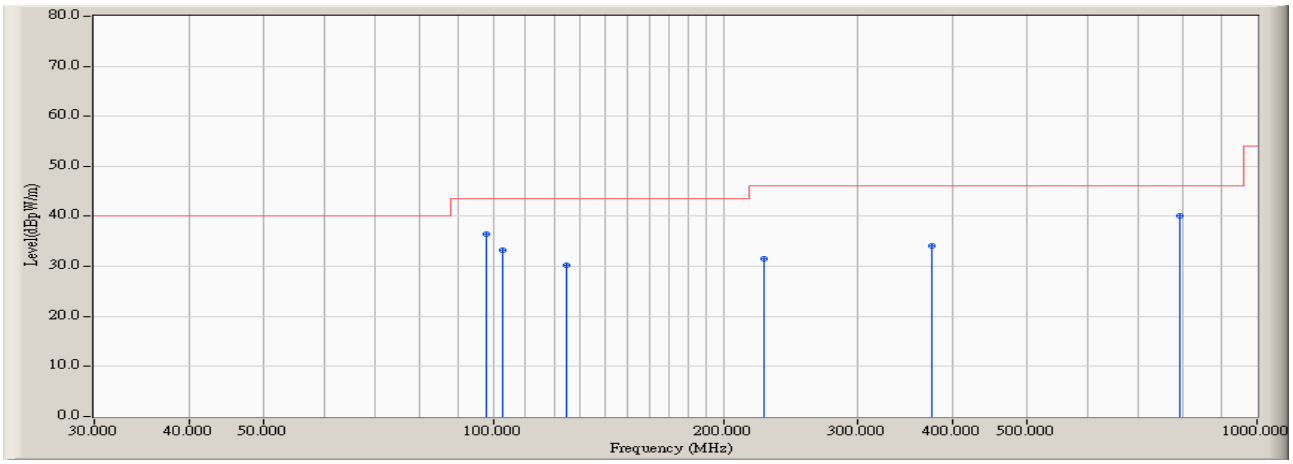
The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4 on radiated measurement.
The additional latch filter below 1GHz was used to measure the level of harmonics radiated emission during field dtrength of harmonics measurement.
The bandwidth below 1GHz setting on the field strength meter is 120 kHz, above 1GHz are 1 MHz.
The frequency range from 30MHz to 10th harminics is checked.

6.5. Deviation from Test Standard

No deviation.

6.6. Test Result

Engineer : Dream	
Site : AC-2	**Time : 2006/07/15 - 19:26**
Limit : FCC_SpartC_15.209_03M_QP	**Margin : 0**
EUT : Wireless Outdoor Bridge (ZA-5000-I)	**Probe : CBL6112B_2932(30-2000MHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5745MHz)**

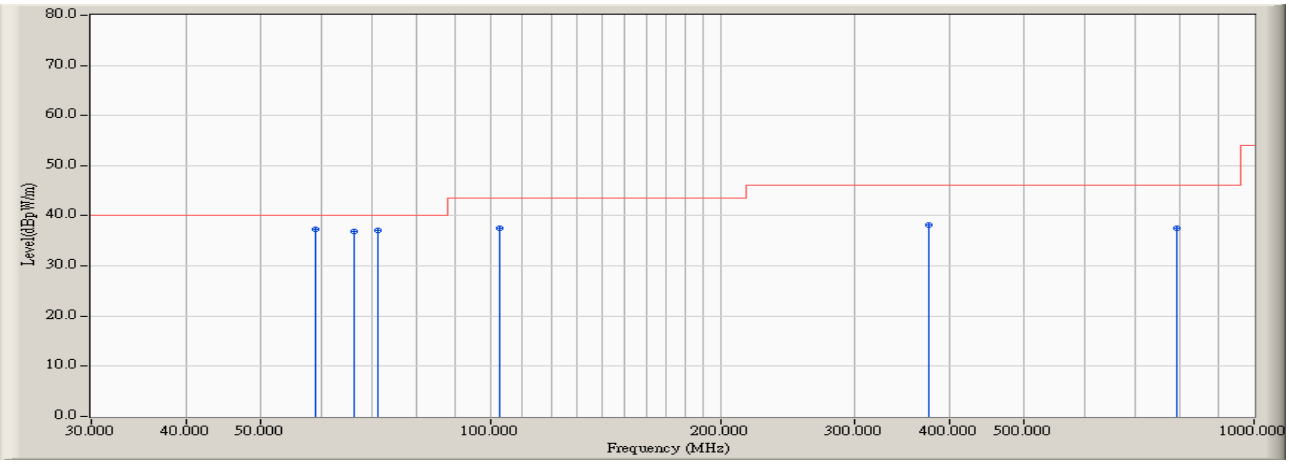


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBpW)	Measure Level (dBpW/m)	Margin (dB)	Limit (dBpW/m)	Detector Type
1		97.900	-11.861	48.355	36.494	-7.026	43.520	QUASIPEAK
2		102.750	-11.096	44.365	33.269	-10.251	43.520	QUASIPEAK
3		124.575	-10.125	40.365	30.240	-13.280	43.520	QUASIPEAK
4		226.425	-12.116	43.686	31.570	-14.450	46.020	QUASIPEAK
5		374.350	-5.568	39.652	34.084	-11.936	46.020	QUASIPEAK
6	*	791.450	0.665	39.365	40.030	-5.990	46.020	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Dream	
Site : AC-2	**Time : 2006/07/15 - 19:52**
Limit : FCC_SpartC_15.209_03M_QP	**Margin : 0**
EUT : Wireless Outdoor Bridge (ZA-5000-I)	**Probe : CBL6112B_2932(30-2000MHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5745MHz)**

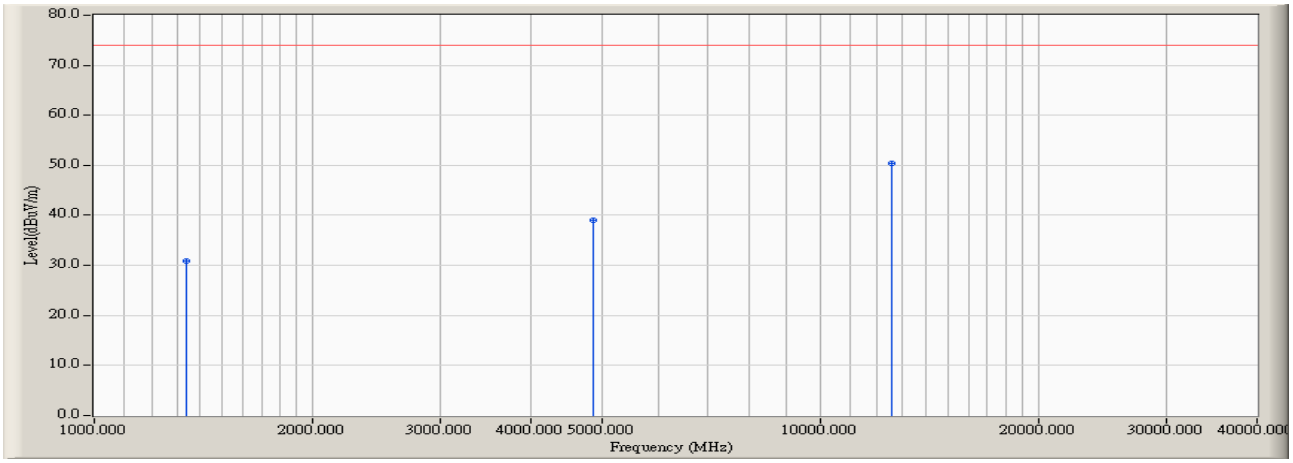


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBpW)	Measure Level (dBpW/m)	Margin (dB)	Limit (dBpW/m)	Detector Type
1	*	59.100	-16.949	54.321	37.372	-2.628	40.000	QUASIPEAK
2		66.375	-17.094	53.987	36.893	-3.107	40.000	QUASIPEAK
3		71.225	-16.783	53.987	37.204	-2.796	40.000	QUASIPEAK
4		102.750	-11.096	48.685	37.589	-5.931	43.520	QUASIPEAK
5		374.350	-5.568	43.652	38.084	-7.936	46.020	QUASIPEAK
6		791.450	0.665	36.962	37.627	-8.393	46.020	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Dream	
Site : AC-2	**Time : 2006/07/16 - 09:10**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : ZA-5000-I	**Probe : 9120D_(1G-18G) - HORIZONTAL**
Power : AC 120V/50Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5745MHz)**

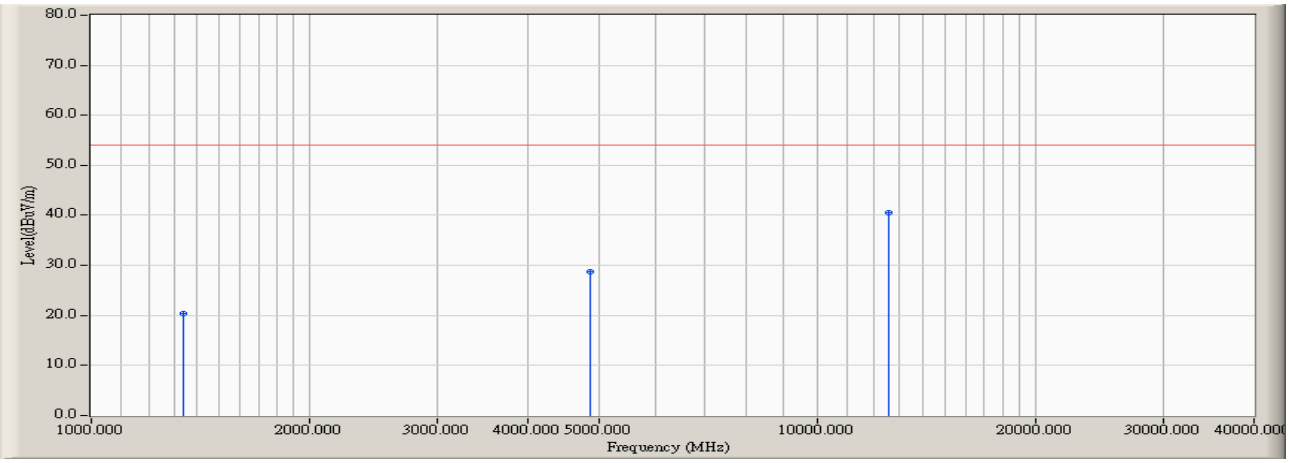


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1340.000	-8.000	38.840	30.840	-43.130	73.970	PEAK
2		4880.000	2.460	36.650	39.109	-34.861	73.970	PEAK
3	*	12560.000	15.670	34.650	50.320	-23.650	73.970	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Dream	
Site : AC-2	**Time : 2006/07/16 - 09:19**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : ZA-5000-I	**Probe : 9120D_(1G-18G) - HORIZONTAL**
Power : AC 120V/50Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5745MHz)**

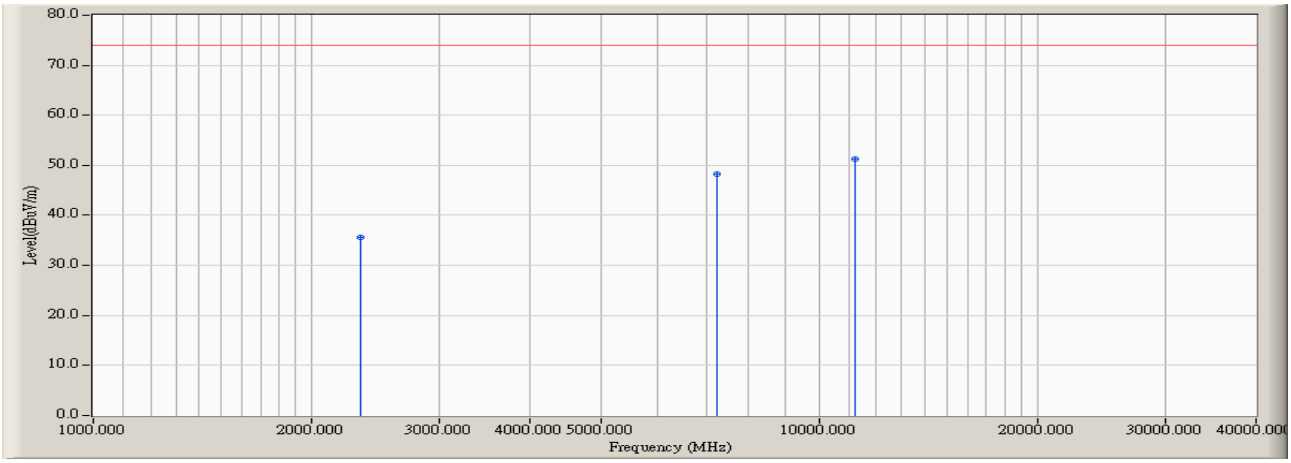


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1340.000	-8.000	28.480	20.480	-33.490	53.970	AVERAGE
2		4880.000	2.460	26.180	28.639	-25.331	53.970	AVERAGE
3	*	12560.000	15.670	24.840	40.510	-13.460	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Dream	
Site : AC-2	**Time : 2006/07/16 - 09:36**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : ZA-5000-I	**Probe : 9120D_(1G-18G) - VERTICAL**
Power : AC 120V/50Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5745MHz)**

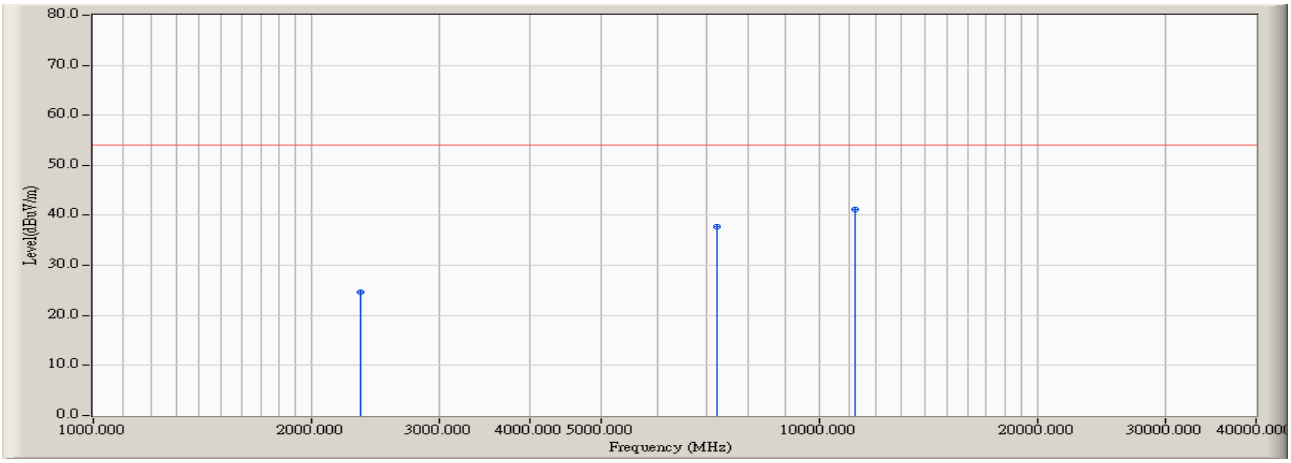


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2330.000	-3.635	39.160	35.525	-38.445	73.970	PEAK
2		7230.000	12.320	35.860	48.181	-25.789	73.970	PEAK
3	*	11200.000	16.640	34.700	51.340	-22.630	73.970	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Dream	
Site : AC-2	**Time : 2006/07/16 - 09:49**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : ZA-5000-I	**Probe : 9120D_(1G-18G) - VERTICAL**
Power : AC 120V/50Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5745MHz)**

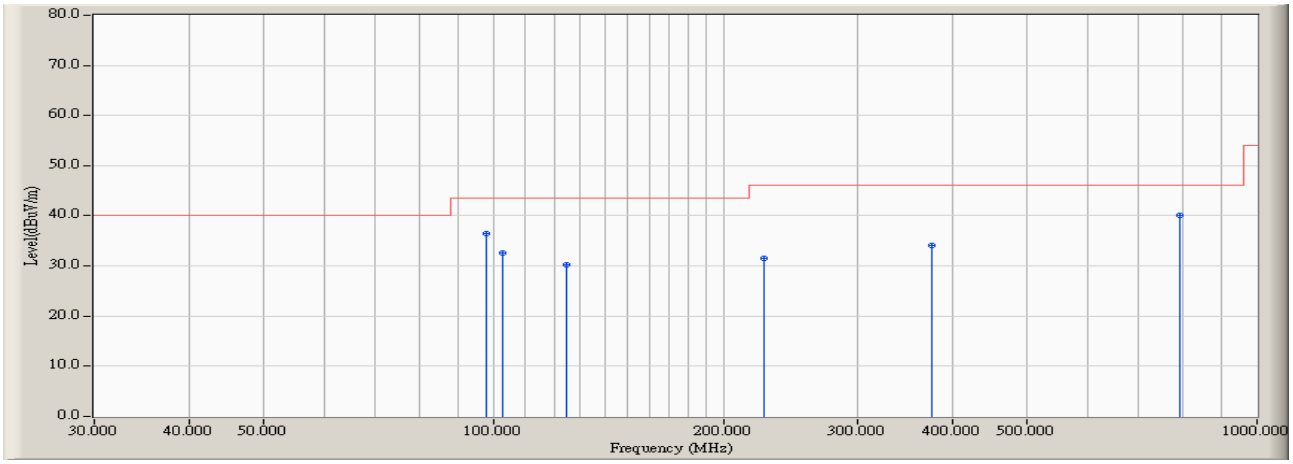


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2330.000	-3.635	28.290	24.655	-29.315	53.970	AVERAGE
2		7230.000	12.320	25.470	37.791	-16.179	53.970	AVERAGE
3	*	11200.000	16.640	24.600	41.240	-12.730	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Dream	
Site : AC-2	**Time : 2006/07/05 – 17:09**
Limit : FCC_SpartC_15.209_03M_QP	**Margin : 0**
EUT : Wireless Outdoor Bridge (ZA-5000-I)	**Probe : CBL6112B_2932(30-2000MHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5785MHz)**

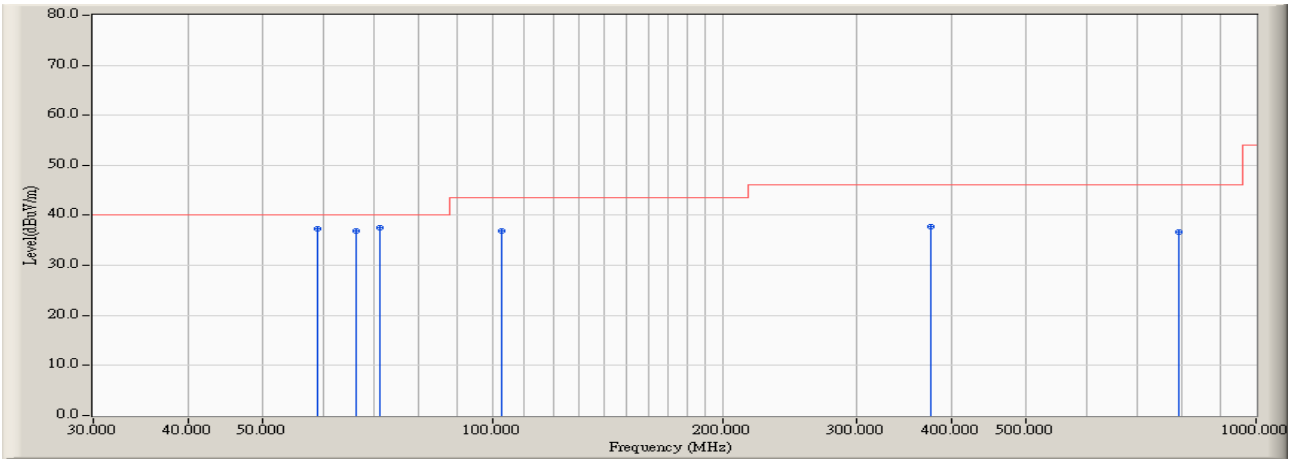


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		97.900	-11.861	48.320	36.459	-7.061	43.520	QUASIPEAK
2		102.750	-11.096	43.698	32.602	-10.918	43.520	QUASIPEAK
3		124.575	-10.125	40.356	30.231	-13.289	43.520	QUASIPEAK
4		226.425	-12.116	43.685	31.570	-14.450	46.020	QUASIPEAK
5		374.350	-5.568	39.651	34.083	-11.937	46.020	QUASIPEAK
6	*	791.450	0.665	39.362	40.027	-5.993	46.020	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Dream	
Site : AC-2	**Time : 2006/07/05 – 17:19**
Limit : FCC_SpartC_15.209_03M_QP	**Margin : 0**
EUT : Wireless Outdoor Bridge (ZA-5000-I)	**Probe : CBL6112B_2932(30-2000MHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5785MHz)**

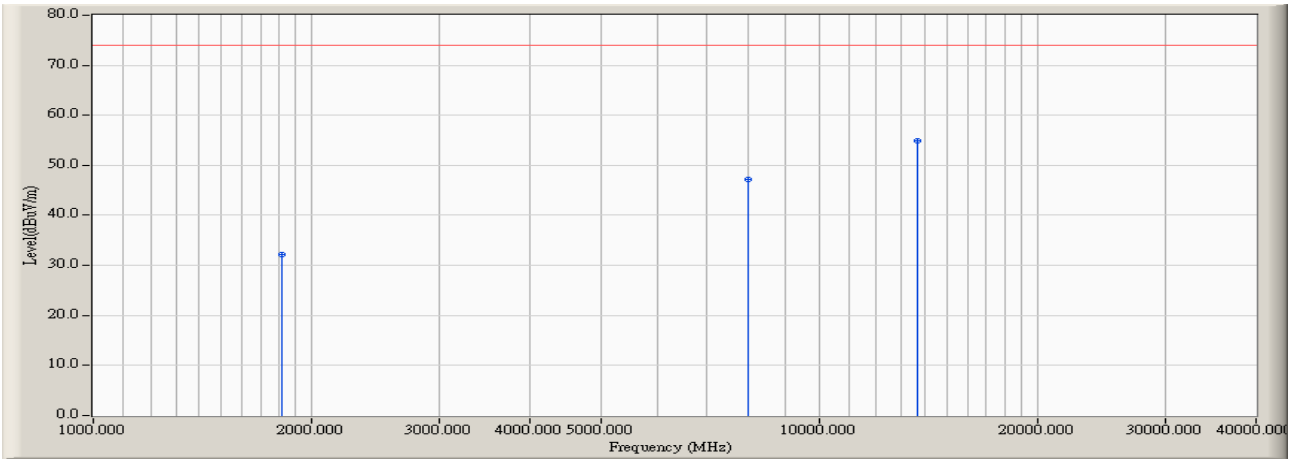


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		59.100	-16.949	54.321	37.372	-2.628	40.000	QUASIPEAK
2		66.375	-17.094	53.987	36.893	-3.107	40.000	QUASIPEAK
3	*	71.225	-16.783	54.321	37.538	-2.462	40.000	QUASIPEAK
4		102.750	-11.096	47.985	36.889	-6.631	43.520	QUASIPEAK
5		374.350	-5.568	43.256	37.688	-8.332	46.020	QUASIPEAK
6		791.450	0.665	35.987	36.652	-9.368	46.020	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : John	
Site : AC-2	**Time : 2006/06/23 - 10:12**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : ZA-5000-I	**Probe : 9120D_(1G-18G) - HORIZONTAL**
Power : AC 120V/50Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5785MHz)**

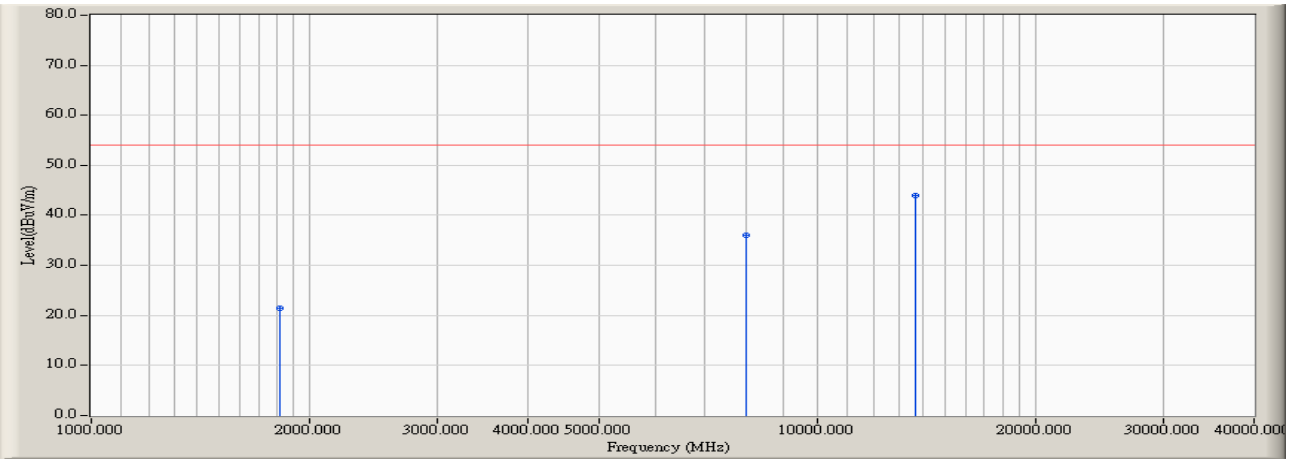


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1820.000	-6.907	39.110	32.204	-41.766	73.970	PEAK
2		8000.000	11.472	35.620	47.092	-26.878	73.970	PEAK
3	*	13690.000	19.394	35.590	54.983	-18.987	73.970	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : John	
Site : AC-2	**Time : 2006/06/23 - 10:19**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : ZA-5000-I	**Probe : 9120D_(1G-18G) - HORIZONTAL**
Power : AC 120V/50Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5785MHz)**

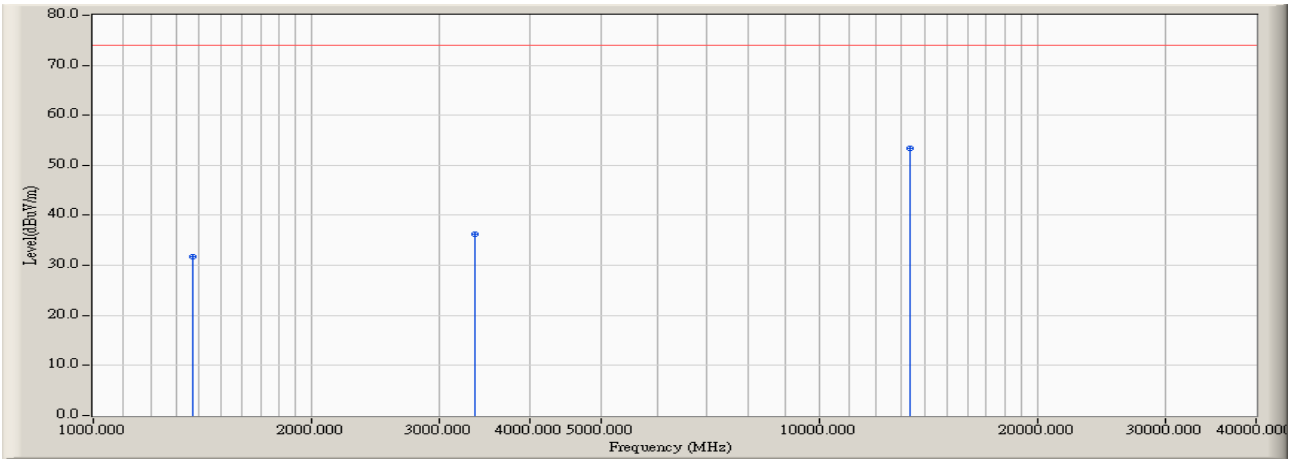


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1820.000	-6.907	28.350	21.444	-32.526	53.970	AVERAGE
2		8000.000	11.472	24.650	36.122	-17.848	53.970	AVERAGE
3	*	13690.000	19.394	24.650	44.043	-9.927	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : John	
Site : AC-2	**Time : 2006/06/23 - 10:30**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : ZA-5000-I	**Probe : 9120D_(1G-18G) - VERTICAL**
Power : AC 120V/50Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5785MHz)**

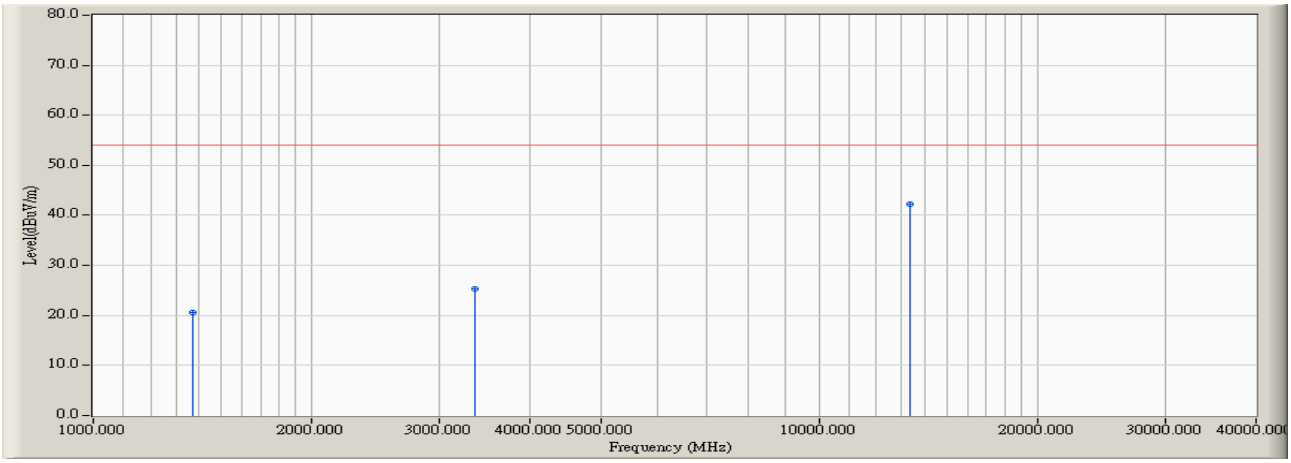


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1370.000	-7.894	39.580	31.686	-42.284	73.970	PEAK
2		3350.000	-2.651	38.940	36.289	-37.681	73.970	PEAK
3	*	13320.000	18.235	35.170	53.405	-20.565	73.970	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : John	
Site : AC-2	**Time : 2006/06/23 - 10:38**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : ZA-5000-I	**Probe : 9120D_(1G-18G) - VERTICAL**
Power : AC 120V/50Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5785MHz)**

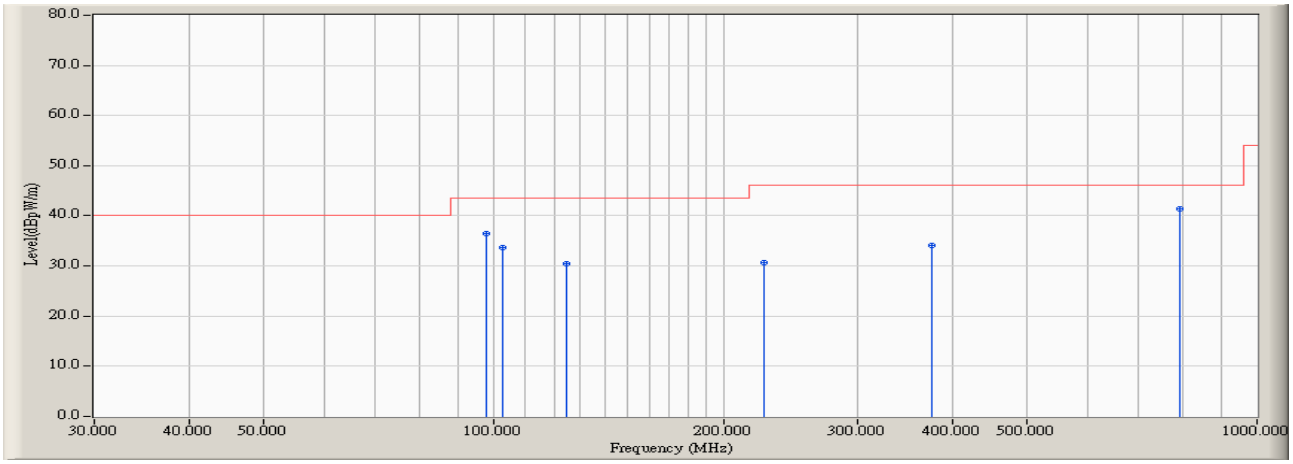


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1370.000	-7.894	28.510	20.616	-33.354	53.970	AVERAGE
2		3350.000	-2.651	27.900	25.249	-28.721	53.970	AVERAGE
3	*	13320.000	18.235	23.980	42.215	-11.755	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Dream	
Site : AC-2	**Time : 2006/07/15 - 20:06**
Limit : FCC_SpartC_15.209_03M_QP	**Margin : 0**
EUT : Wireless Outdoor Bridge (ZA-5000-I)	**Probe : CBL6112B_2932(30-2000MHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5805MHz)**

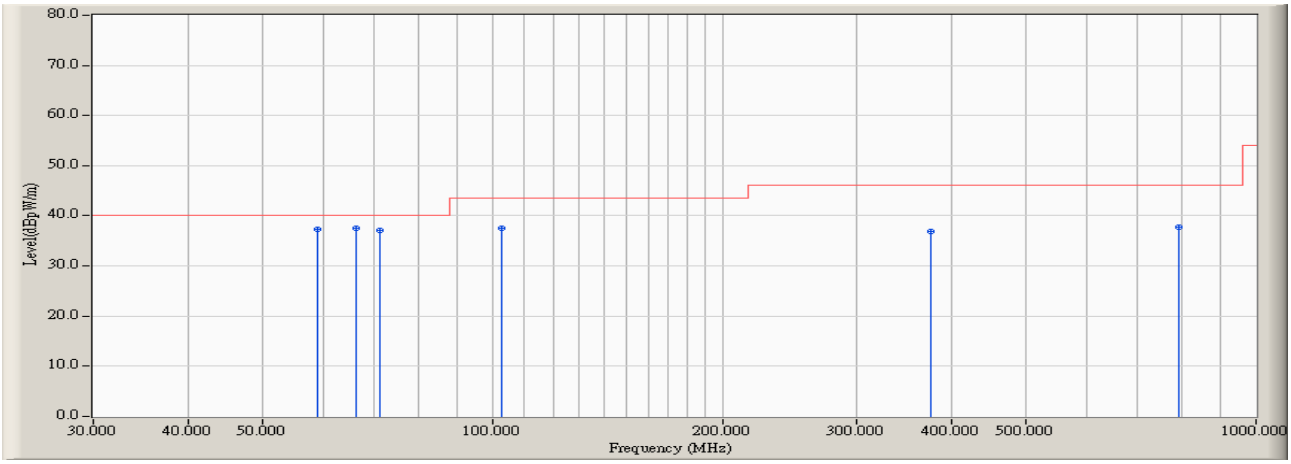


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBpW)	Measure Level (dBpW/m)	Margin (dB)	Limit (dBpW/m)	Detector Type
1		97.900	-11.861	48.358	36.497	-7.023	43.520	QUASIPEAK
2		102.750	-11.096	44.685	33.589	-9.931	43.520	QUASIPEAK
3		124.575	-10.125	40.682	30.557	-12.963	43.520	QUASIPEAK
4		226.425	-12.116	42.698	30.582	-15.438	46.020	QUASIPEAK
5		374.350	-5.568	39.687	34.119	-11.901	46.020	QUASIPEAK
6	*	791.450	0.665	40.689	41.354	-4.666	46.020	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Dream	
Site : AC-2	**Time : 2006/07/15 - 20:23**
Limit : FCC_SpartC_15.209_03M_QP	**Margin : 0**
EUT : Wireless Outdoor Bridge (ZA-5000-I)	**Probe : CBL6112B_2932(30-2000MHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5805MHz)**

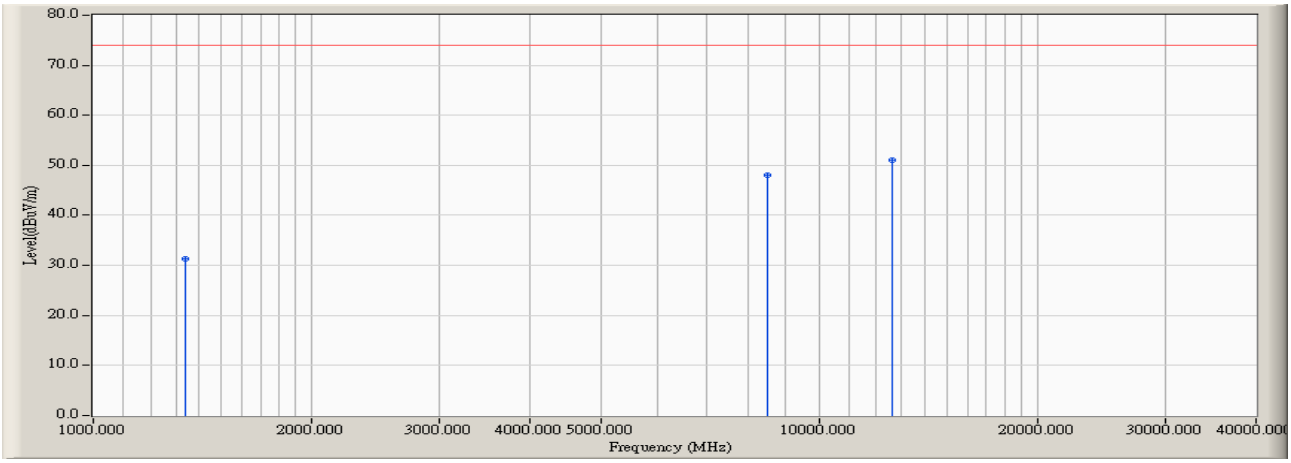


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBpW)	Measure Level (dBpW/m)	Margin (dB)	Limit (dBpW/m)	Detector Type
1		59.100	-16.949	54.233	37.284	-2.716	40.000	QUASIPEAK
2	*	66.375	-17.094	54.685	37.591	-2.409	40.000	QUASIPEAK
3		71.225	-16.783	53.987	37.204	-2.796	40.000	QUASIPEAK
4		102.750	-11.096	48.652	37.556	-5.964	43.520	QUASIPEAK
5		374.350	-5.568	42.389	36.821	-9.199	46.020	QUASIPEAK
6		791.450	0.665	36.987	37.652	-8.368	46.020	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Dream	
Site : AC-2	**Time : 2006/07/16 - 09:59**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : ZA-5000-I	**Probe : 9120D_(1G-18G) - HORIZONTAL**
Power : AC 120V/50Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5805MHz)**

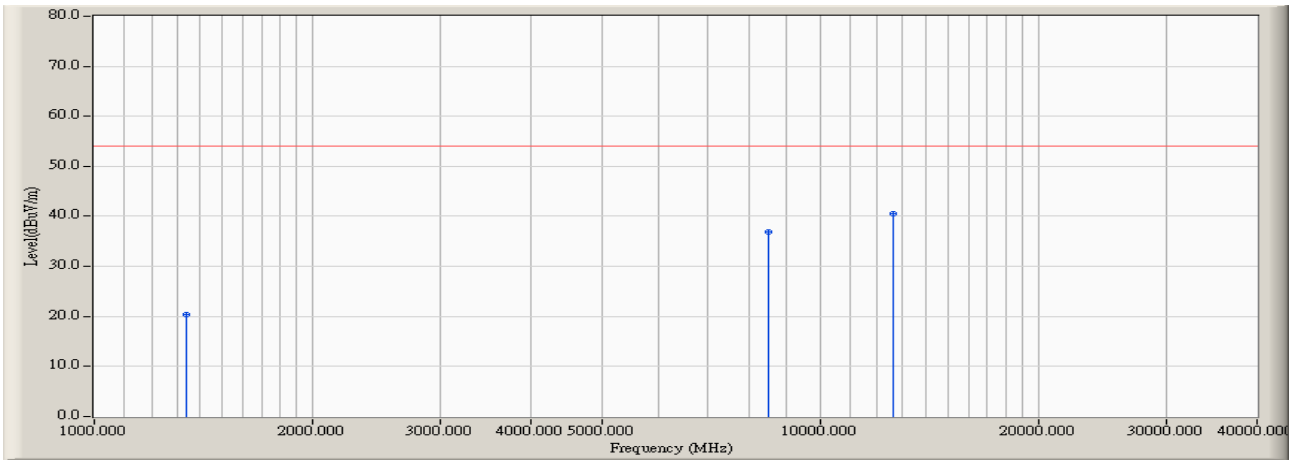


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1340.000	-8.000	39.400	31.400	-42.570	73.970	PEAK
2		8480.000	11.380	36.660	48.040	-25.930	73.970	PEAK
3	*	12590.000	15.776	35.300	51.076	-22.894	73.970	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Dream	
Site : AC-2	**Time : 2006/07/16 - 10:09**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : ZA-5000-I	**Probe : 9120D_(1G-18G) - HORIZONTAL**
Power : AC 120V/50Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5805MHz)**

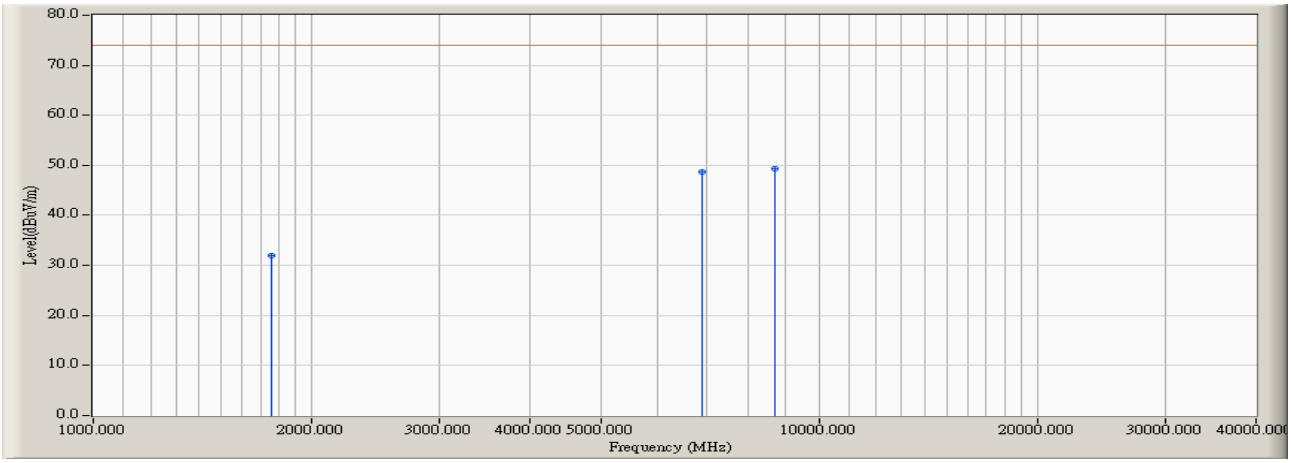


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1340.000	-8.000	28.480	20.480	-33.490	53.970	AVERAGE
2		8480.000	11.380	25.490	36.870	-17.100	53.970	AVERAGE
3	*	12590.000	15.776	24.730	40.506	-13.464	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Dream	
Site : AC-2	**Time : 2006/07/16 - 10:21**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : ZA-5000-I	**Probe : 9120D_(1G-18G) - VERTICAL**
Power : AC 120V/50Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5805MHz)**

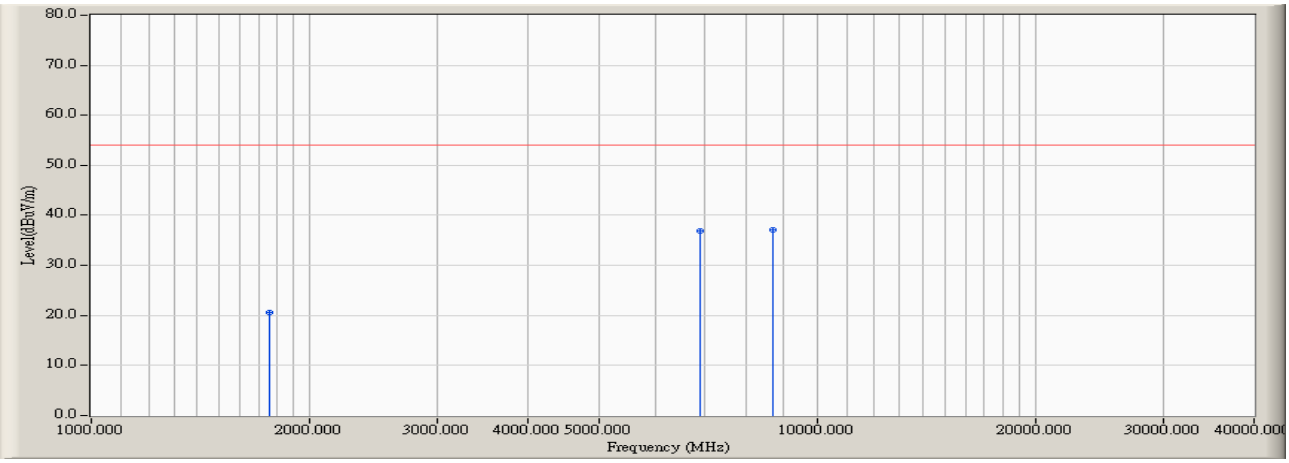


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1760.000	-7.237	39.200	31.964	-42.006	73.970	PEAK
2		6890.000	11.273	37.410	48.683	-25.287	73.970	PEAK
3	*	8710.000	11.876	37.350	49.226	-24.744	73.970	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Dream	
Site : AC-2	**Time : 2006/07/16 - 10:36**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : ZA-5000-I	**Probe : 9120D_(1G-18G) - VERTICAL**
Power : AC 120V/50Hz	**Note : Mode1: Transmitter 802.11a with Inside Antenna (Tx: 5805MHz)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1760.000	-7.237	27.900	20.664	-33.306	53.970	AVERAGE
2		6890.000	11.273	25.550	36.823	-17.147	53.970	AVERAGE
3	*	8710.000	11.876	25.200	37.076	-16.894	53.970	AVERAGE

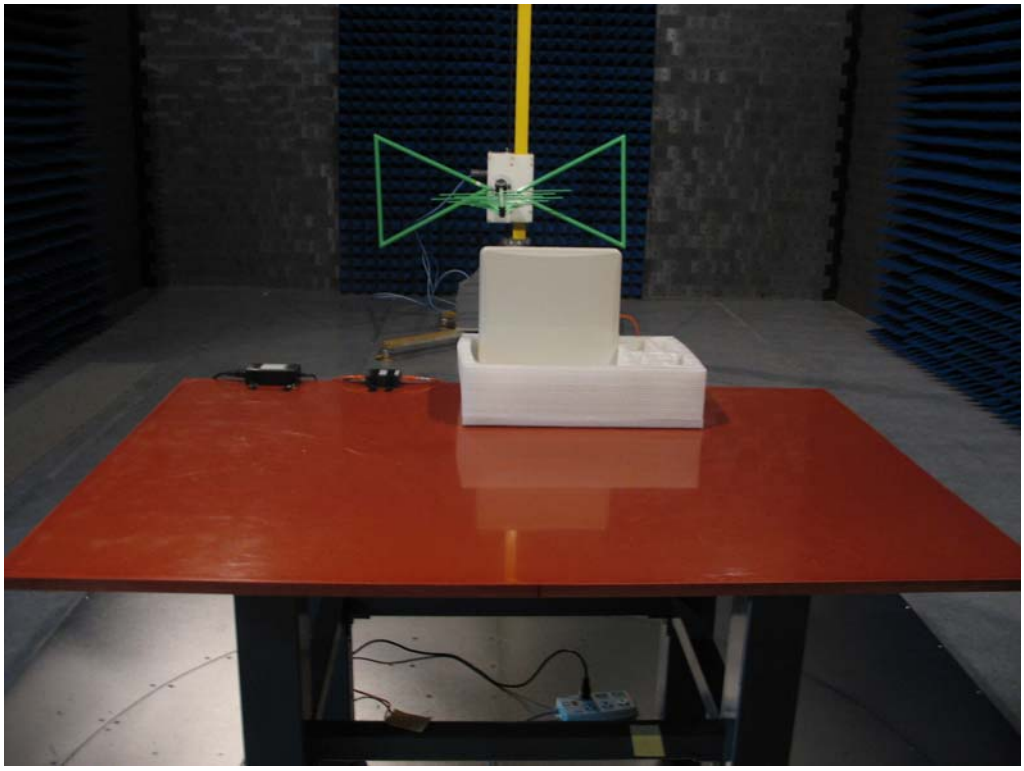
Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

6.7. Test Photograph

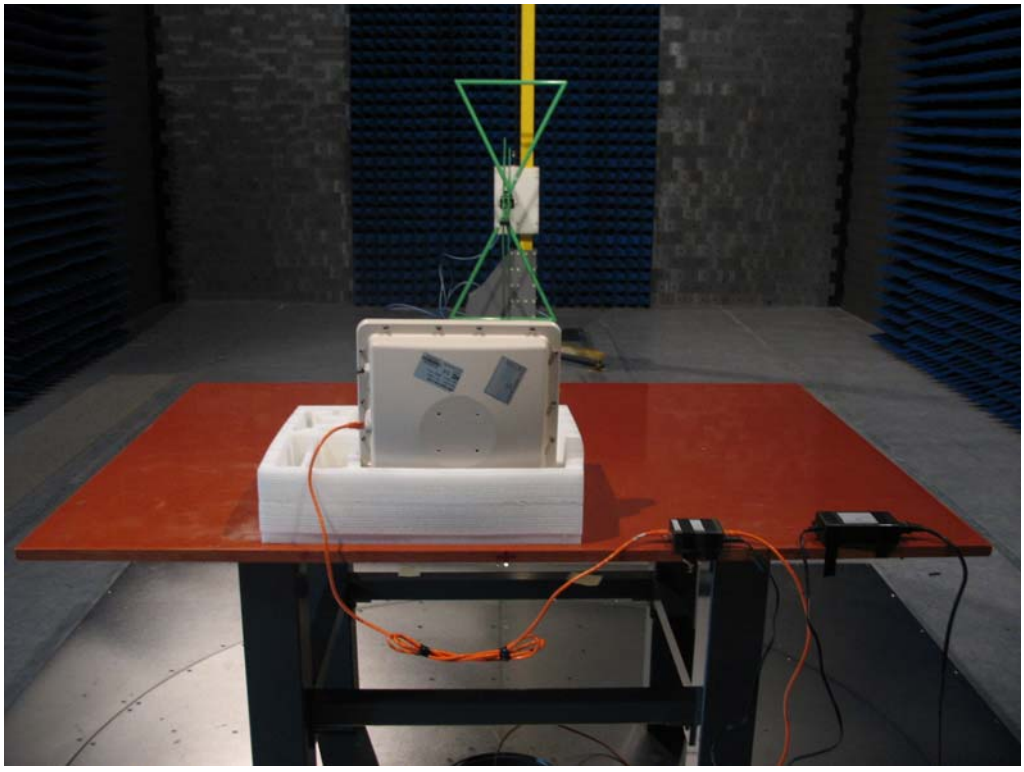
Test Mode: Mode1: Transmitter 802.11a with Inside Antenna

Description: Front View of Radiated Test for Under 1GHz



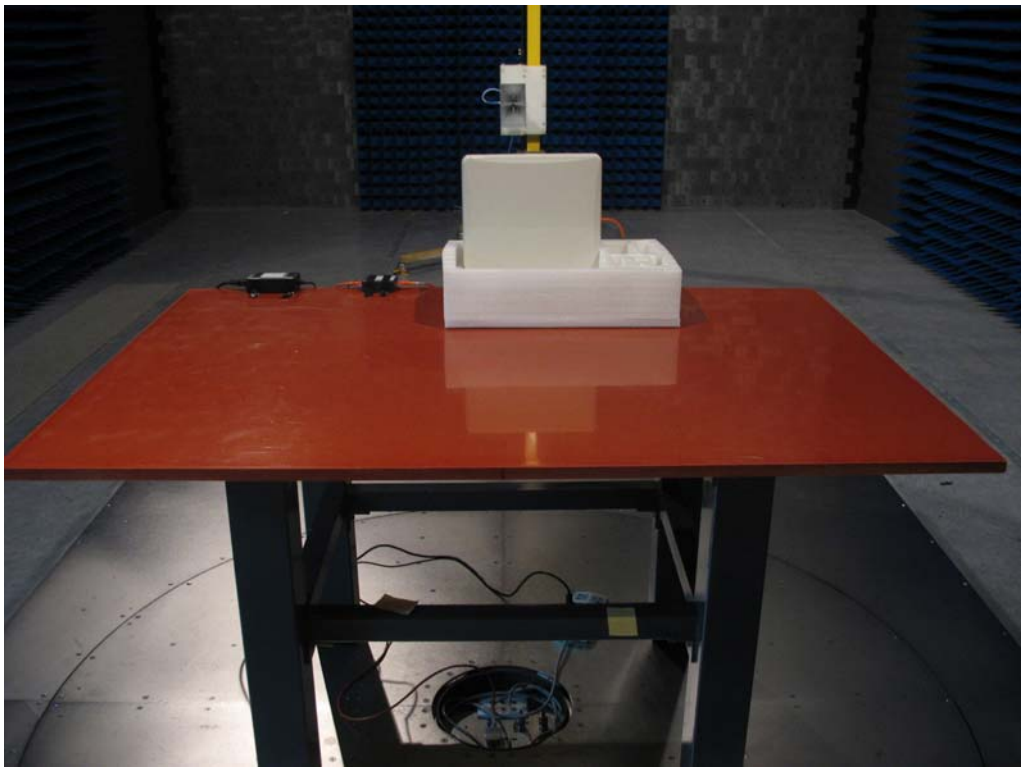
Test Mode: Mode1: Transmitter 802.11a with Inside Antenna

Description: Back View of Radiated Test for Under 1GHz



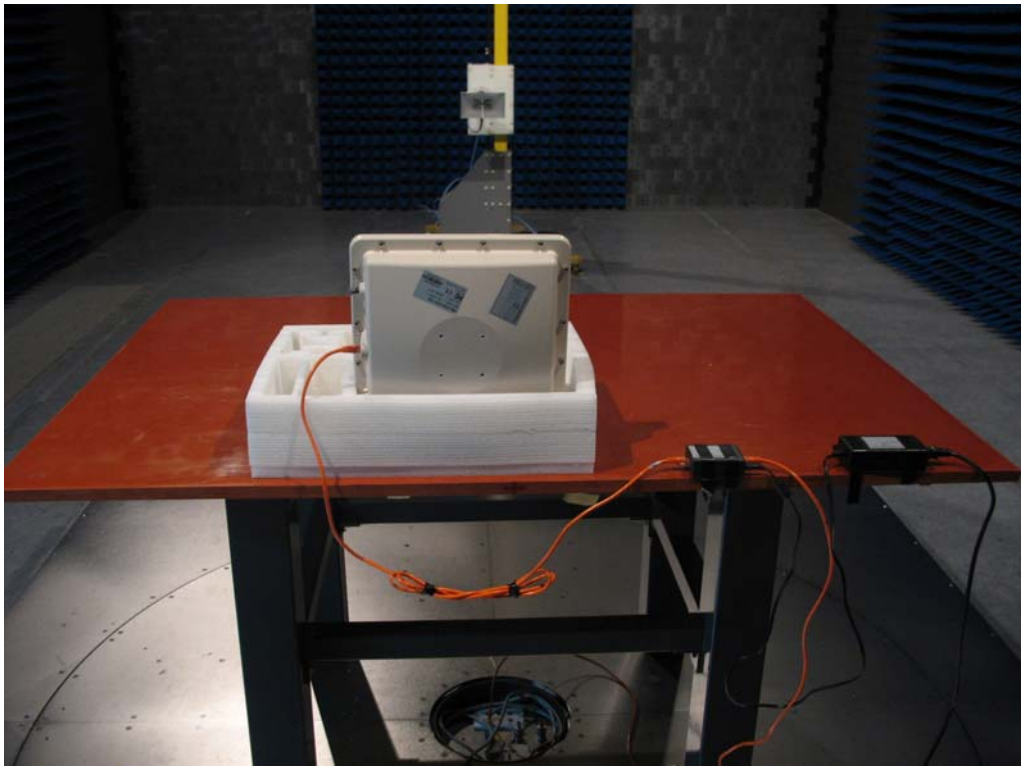
Test Mode: Mode1: Transmitter 802.11a with Inside Antenna

Description: Front View of Radiated Test for Above 1GHz



Test Mode: Mode1: Transmitter 802.11a with Inside Antenna

Description: Back View of Radiated Test for Above 1GHz

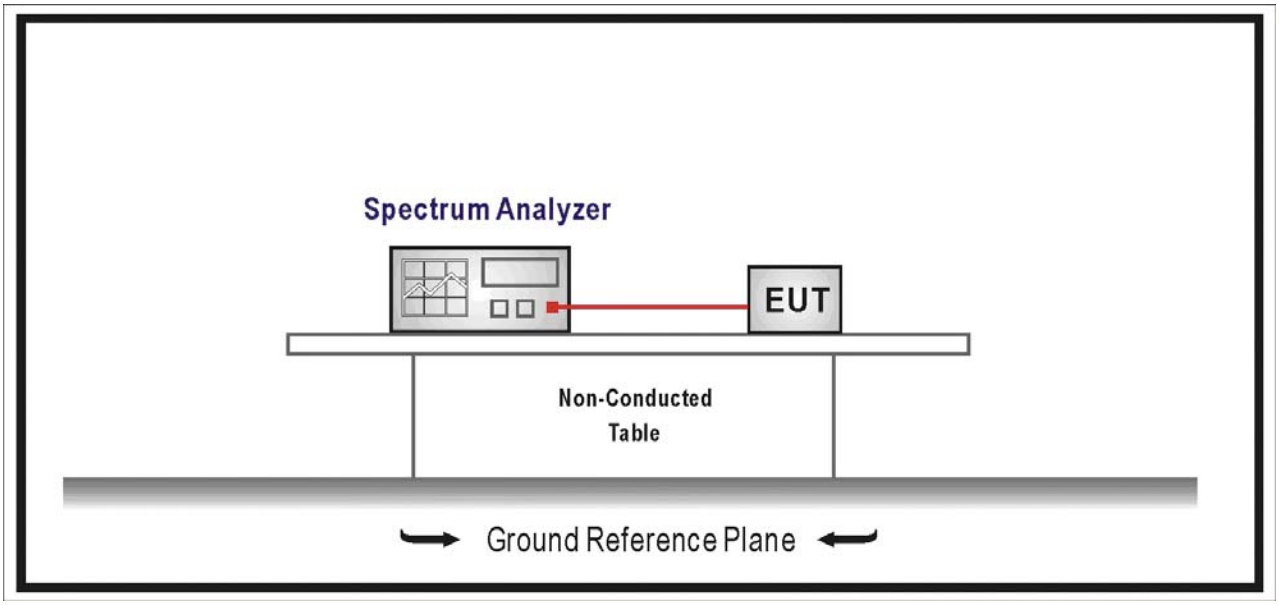


7. Peak Power Spectral Density

7.1. Test Specification

According to EMC Standard: FCC Part 15 Subpart C Paragraph 15.407

7.2. Test Setup



7.3. Limit

(1) For the band 5.15-5.25 GHz, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

(2) For the band 5.25-5.35 GHz, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.825 GHz, the peak power spectral density shall not exceed 17 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

7.4. Deviation from Test Standard

No deviation.

7.5. Test Result

Product	Wireless Outdoor Bridge (ZA-5000-I)		
Test Item	Peak Power Spectral Density		
Test Mode	Mode1: Transmitter 802.11a with Inside Antenna		
Date of Test	2006/06/20	Test Site	AC-3

Channel	Freq. (MHz)	Power Spectral Density (dBm/1MHz)	Limit (dBm /1MHz)	Result
149	5745	6.97	17	PASS
157	5785	6.23	17	PASS
161	5805	5.69	17	PASS

Figure Channel 149 (5745MHz)

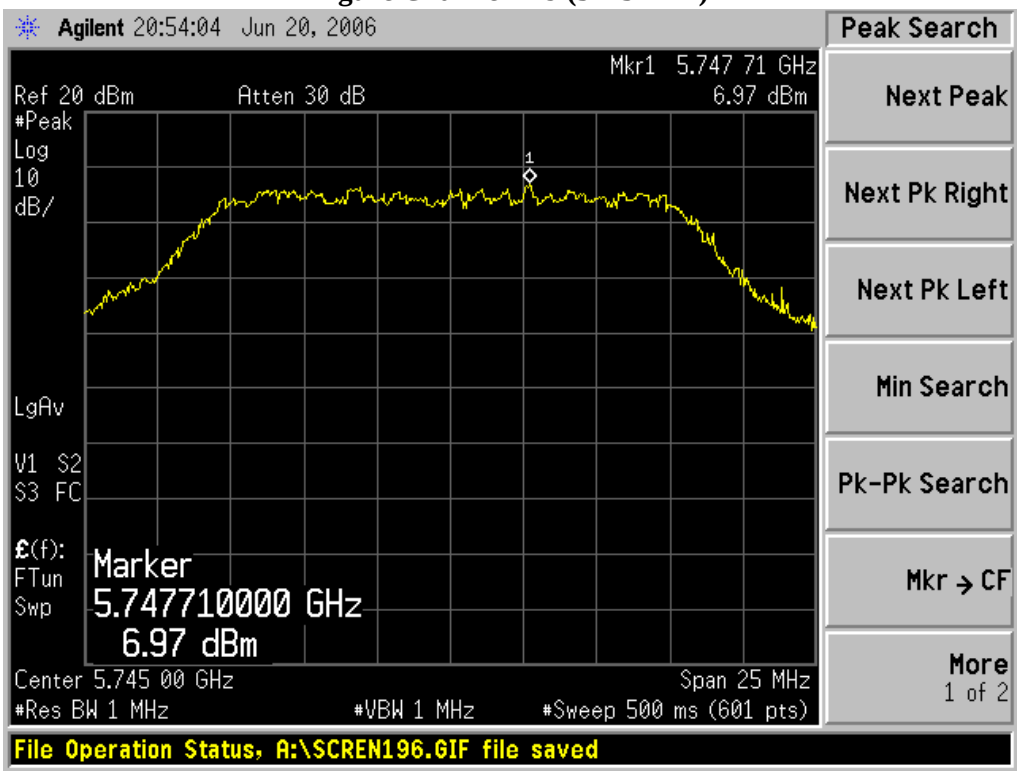


Figure Channel 157 (5785MHz)

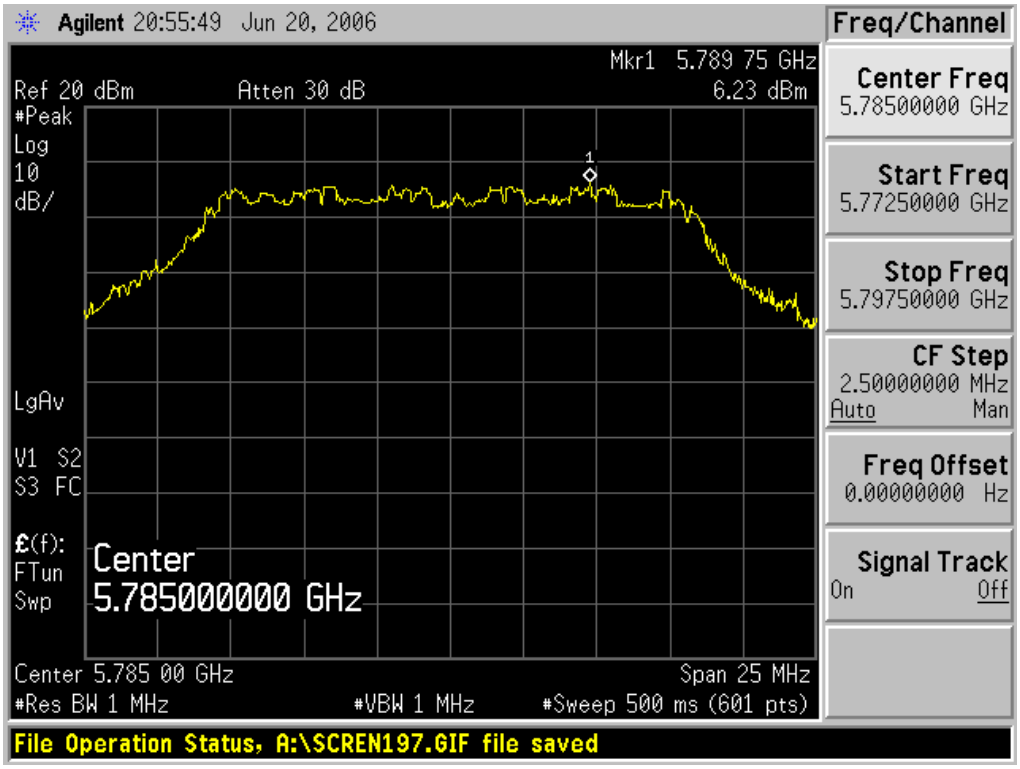
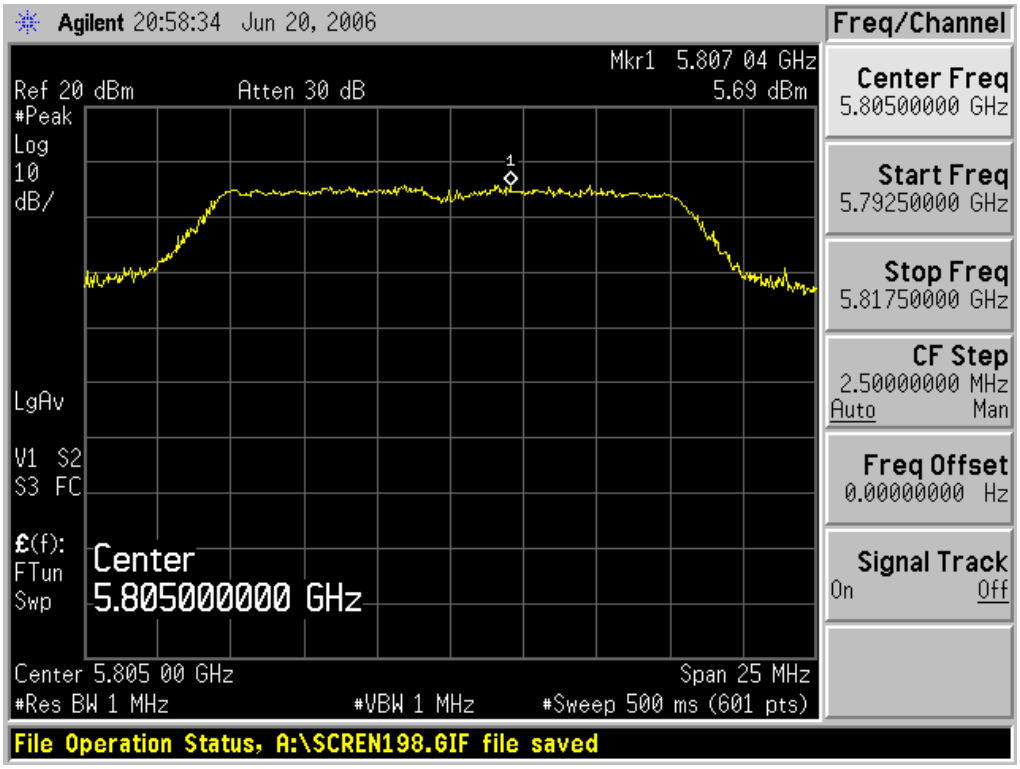


Figure Channel 161 (5805MHz)

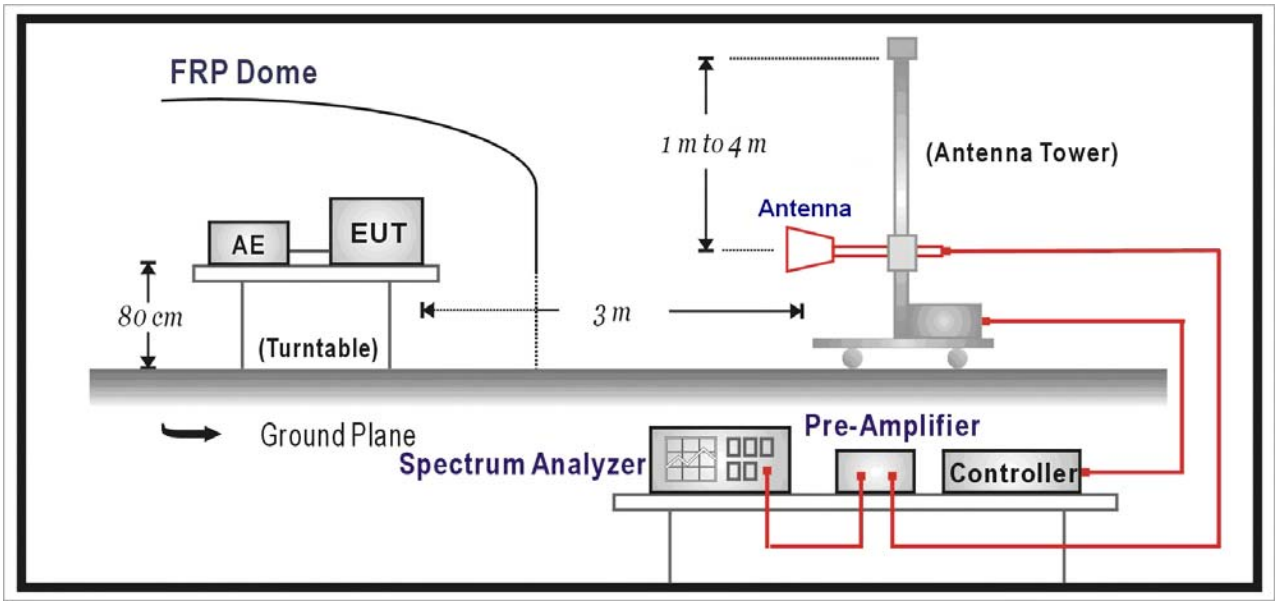


8. Band Edge

8.1. Test Specification

According to EMC Standard: FCC Part 15 Subpart C Paragraph 15.407

8.2. Test Setup



8.3. Limit

(1) For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of –27dBm/MHz in the 5.15-5.25 GHz band.

(3) For transmitters operating in the 5.47-5.725 GHz band: all emission outside of the 5.47-5725 GHz band shall not exceed an EIRP of –27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.825 GHz band: all emission within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of –17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of –27 dBm/MHz.

8.4. Deviation from Test Standard

No deviation.

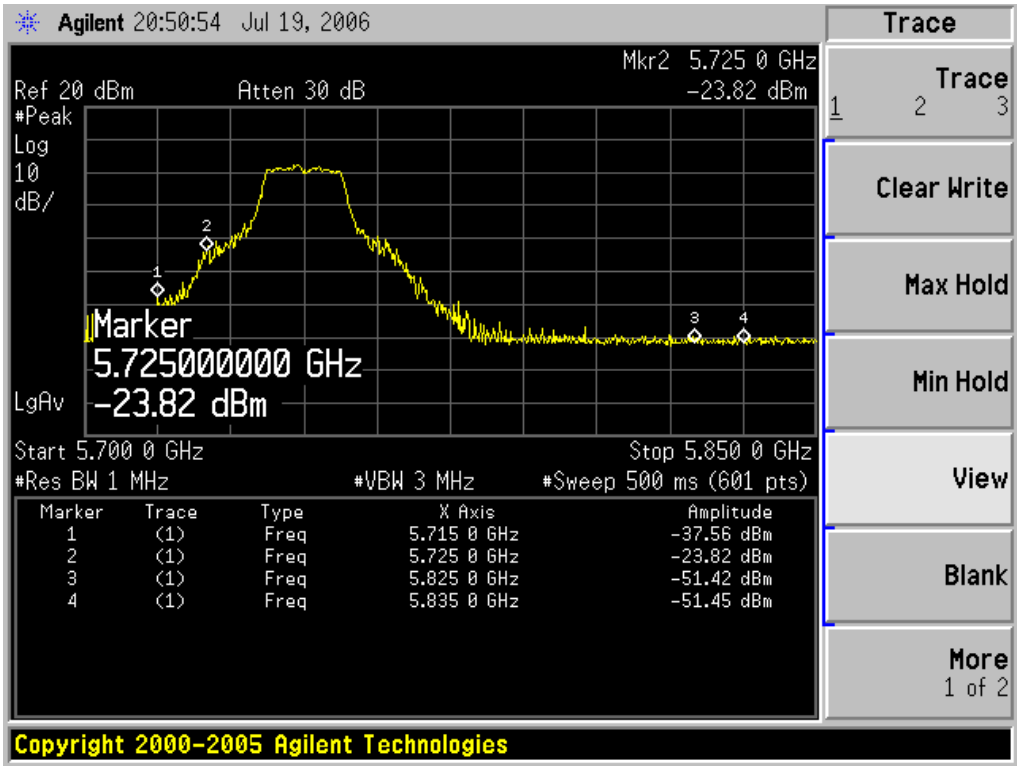
8.5. Test Result

Product	Wireless Outdoor Bridge (ZA-5000-I)		
Test Item	Band Edge		
Test Mode	Mode1: Transmitter 802.11a with Inside Antenna		
Date of Test	2006/07/19	Test Site	AC-2

RF Conducted Measurement:

Channel No.	Frequency (MHz)	Antenna Gain	Reading Level (dBm/MHz)	Level (dBm/MHz)	EIRP Limit (dBm/MHz)	Result
149 (5745MHz)	5715.000	6dBi	-37.56	-31.56	-27	Pass
	5725.000	6dBi	-23.82	-17.82	-17	Pass
	5825.000	6dBi	-51.42	-45.42	-17	Pass
	5835.000	6dBi	-51.45	-45.45	-27	Pass

Figure Channel 149 (5745MHz)

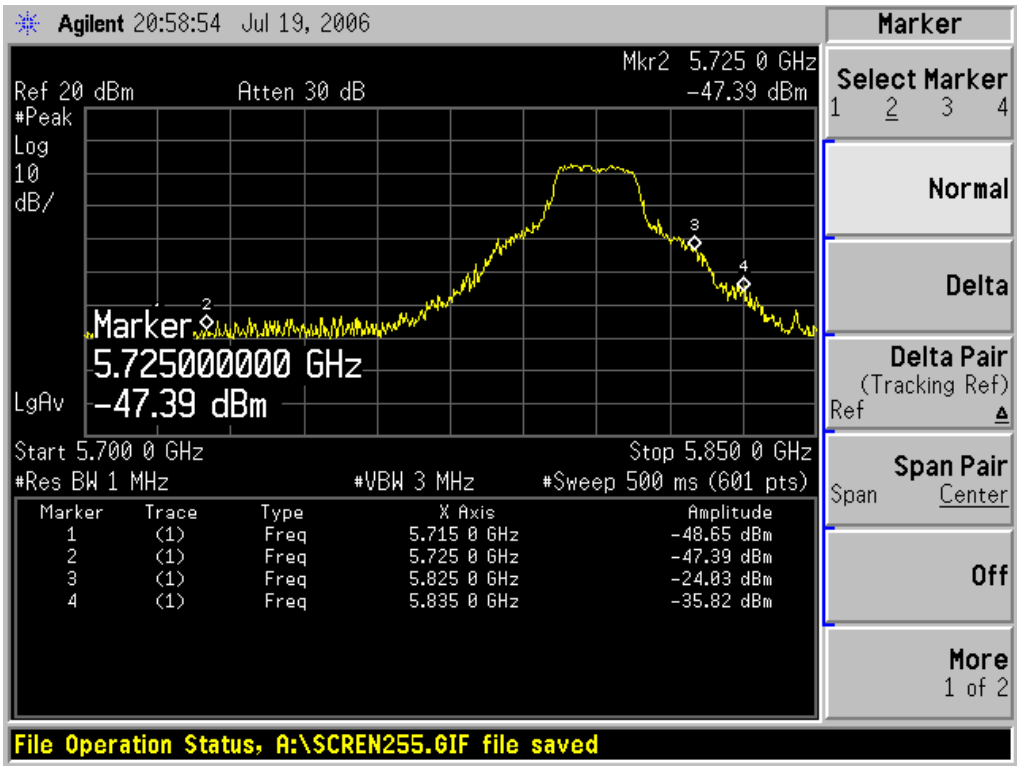


Product	Wireless Outdoor Bridge (ZA-5000-I)		
Test Item	Band Edge		
Test Mode	Mode1: Transmitter 802.11a with Inside Antenna		
Date of Test	2006/07/19	Test Site	AC-2

RF Conducted Measurement:

Channel No.	Frequency (MHz)	Antenna Gain	Reading Level (dBm/MHz)	Level (dBm/MHz)	EIRP Limit (dBm/MHz)	Result
161 (5805MHz)	5715.000	6dBi	-48.65	-42.65	-27	Pass
	5725.000	6dBi	-47.39	-41.39	-17	Pass
	5825.000	6dBi	-24.03	-18.03	-17	Pass
	5835.000	6dBi	-35.82	-29.82	-27	Pass

Figure Channel 161 (5805MHz)

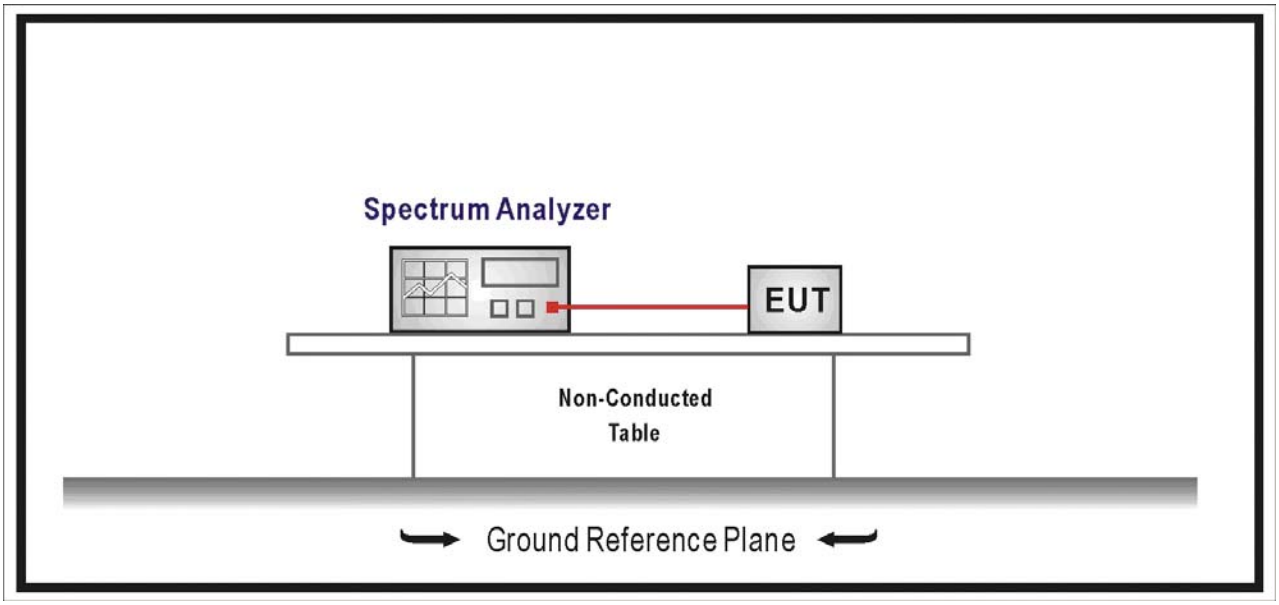


9. Peak Excursion

9.1. Test Specification

According to EMC Standard: FCC Part 15 Subpart C Paragraph 15.407

9.2. Test Setup



9.3. Limit

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

9.4. Deviation from Test Standard

No deviation.

9.5. Test Result

Product	Wireless Outdoor Bridge (ZA-5000-I)		
Test Item	Peak Excursion		
Test Mode	Mode1: Transmitter 802.11a with Inside Antenna		
Date of Test	2006/06/20	Test Site	AC-3

Channel	Freq. (MHz)	Peak Excursion (dB)	Limit (dB)	Result
149	5745	7.69	<13	PASS
157	5785	8.14	<13	PASS
161	5805	8.24	<13	PASS

Figure Channel 149 (5745MHz)

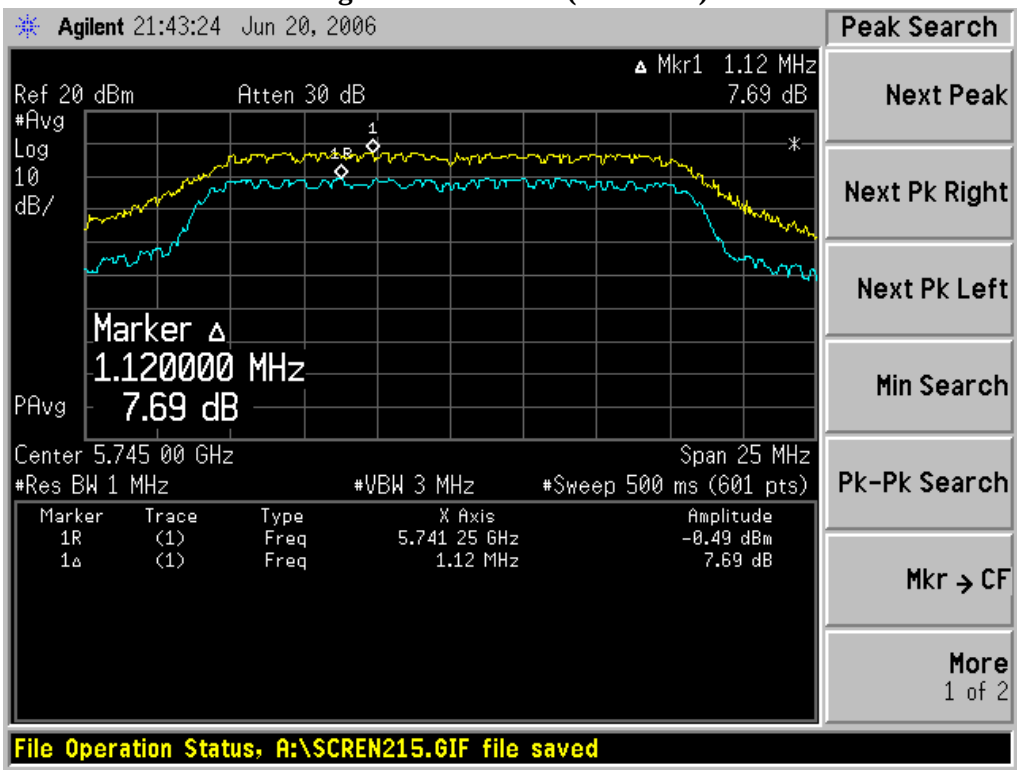


Figure Channel 157 (5785MHz)

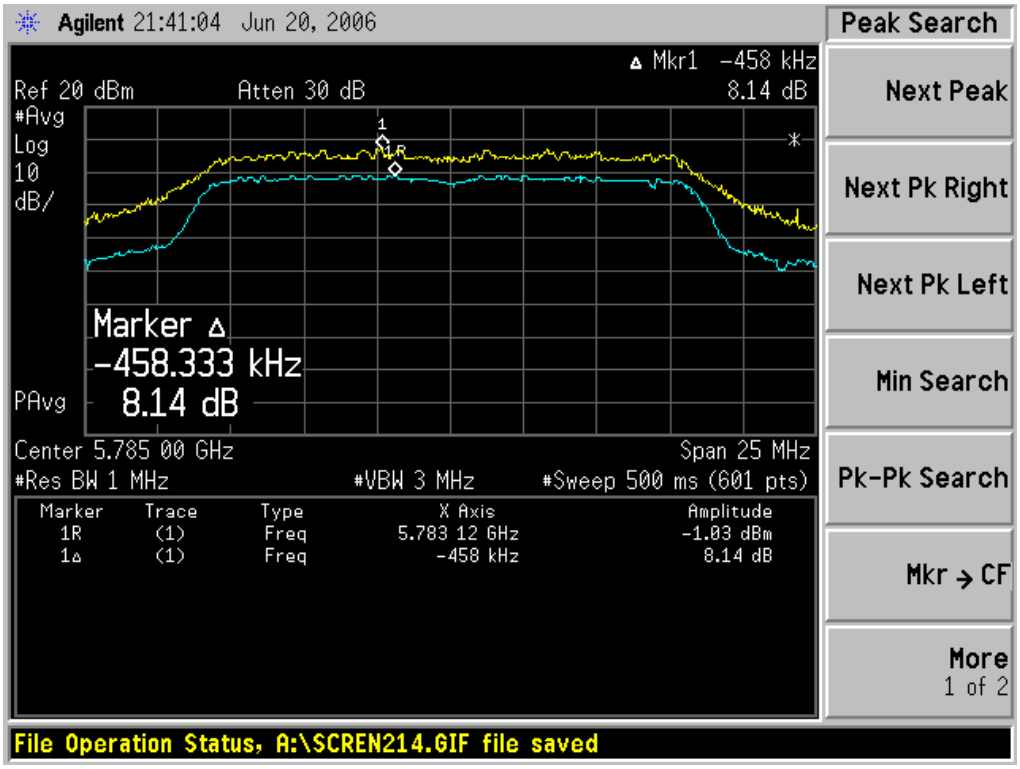
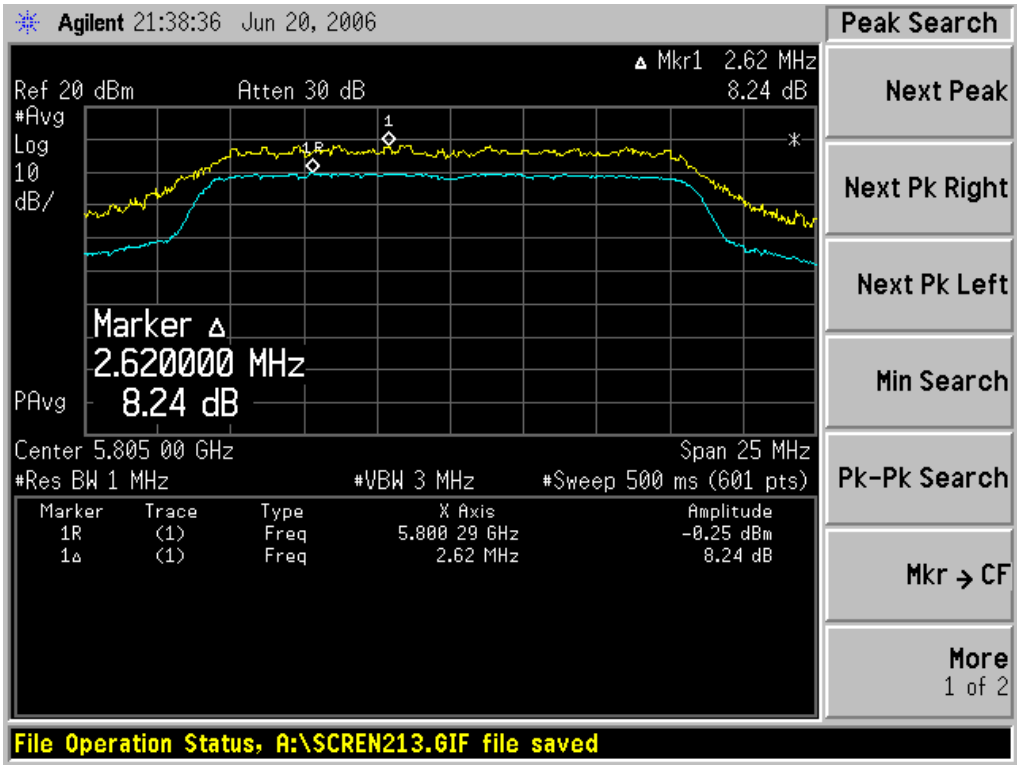


Figure Channel 161 (5805MHz)

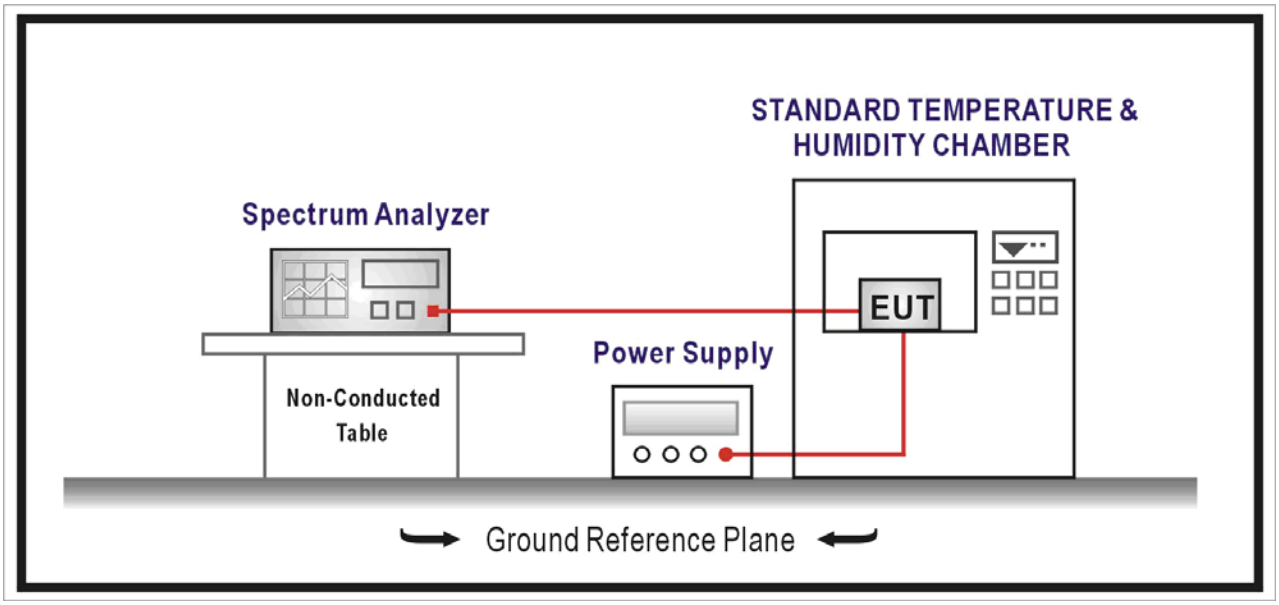


10. Frequency Stability

10.1. Test Specification

According to EMC Standard: FCC Part 15 Subpart C Paragraph 15.407

10.2. Test Setup



10.3. Limit

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified

10.4. Deviation from Test Standard

No deviation.

10.5. Test Result

Product	Wireless Outdoor Bridge (ZA-5000-I)		
Test Item	Frequency Stability		
Test Mode	Mode1: Transmitter 802.11a with Inside Antenna		
Date of Test	2006/06/20	Test Site	AC-3

Operating Frequency: Channel 161 (5805MHz)									Limit: 0.02%
Temp (℃)	Voltage (VAC)	0 minutes		2 minutes		5 minutes		10 minutes	
		Measured (MHz)	Tolerance (%)	Measured (MHz)	Tolerance (%)	Measured (MHz)	Tolerance (%)	Measured (MHz)	Tolerance (%)
0 ℃	102V	5805.0981	0.00168	5805.0970	0.00167	5805.0950	0.00163	5805.0960	0.00165
	120V	5805.0870	0.00149	5805.0860	0.00148	5805.0785	0.00135	5805.0860	0.00148
	138V	5805.0789	0.00135	5805.0790	0.00136	5805.0820	0.00141	5805.0800	0.00137
20 ℃	102V	5805.0901	0.00155	5805.0906	0.00156	5805.0916	0.00157	5805.0920	0.00158
	120V	5805.0010	0.00010	5805.0950	0.00163	5805.0821	0.00141	5805.0820	0.00141
	138V	5804.9820	-0.00031	5804.9760	-0.00041	5804.9680	-0.00055	5804.9505	-0.00085
55 ℃	102V	5804.9100	-0.00155	5804.9090	-0.00156	5804.8890	-0.00191	5804.9020	-0.00168
	120V	5805.0020	0.00003	5805.0012	0.00002	5805.0068	0.00011	5805.0090	0.00015
	138V	5805.0790	0.00136	5805.0800	0.00137	5805.0900	0.00155	5805.0980	0.00168